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ABSTRACT

The author attempts to determine the value of psychometric measures of impulsiveness and anxiety for predicting potential disciplinary problems among high school males. A secondary purpose is to relate these personality factors to academic achievement. Approximately 320 sophomores were administered a psychometric battery which included: (1) an impulsiveness scale; (2) the Rotter Incomplete Sentences Blank; (3) a culture-fair intelligence test; (4) a temperament survey; (5) a capacity test; (6) a survey of study habits; (7) an adjective check list; and (8) an anxiety scale. Criterion measures utilized were grades in selected courses, conduct scores, number of behavioral infractions, and drop-out information. Comprehensive and varied data analyses were undertaken both for answers to specific questions and for exploration of other possible relationships. The most significant findings indicate: (1) a low but significant correlation of anxiety with impulsiveness; (2) a relationship of both to study habits; (3) a positive relationship between high impulsiveness and behavioral infractions and dropping out; and (4) no significant relationship between the ratio of impulsiveness to anxiety and academic achievement when other factors are partialled out. (TL)

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among high school males.

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Project title:	The Teaching of Gymnastics in the Second Year of the Secondary School and the Eighth Year of the Comprehensive School
Carried out at:	The Institutes of Education at Stockholm and Umeå Schools of Education
Scientific leader:	Professor Sten Henrysson
Investigation leader:	Lars-Magnus Engström, Phil.Cand. Gudrun Hedberg, Phil.Cand.

Background

In February, 1967, the National Board of Education arranged a symposium on the teaching of gymnastics. It became evident during the symposium that very few psychological and educational studies directly bearing on physical culture have been undertaken. This is especially true of research that can be applied to Swedish conditions.

It was stated at the symposium that more information is required on the way gymnastics is taught in schools and also on the attitude of the pupils to this subject. This information is of importance in order to give every individual the possibility of recreation and optimum development of his physical aptitude in accordance with prevailing conditions and his interests. From those who placed emphasis on the importance of gymnastic instruction for physical activities in spare time after leaving school similar requests for research were put forward. A survey of the pupils' spare time athletic activities was also considered desirable.

Against the background of this discussion investigations have now been completed of gymnastic teaching in the eignth school year of the comprehensive school and the second school year of the secondary school at the Schools of Education in Stockholm and Umeå. The investigation was financed by a grant from Department L4 of the National Board of Education.

Aim

The aim of the investigation is to throw light on three spheres which are of essential importance to the presentation of the subject of gymnastics:

a. The organization of gymnastic instruction in the second year of the secondary school as well as the attitude of the teachers to various problems concering the content of the subject, its objectives and marking.

b. The attitude of the pupils to gymnastic instruction.

c. The pupils' interest and participation in spare time athletic activities.

The underlying purpose of the investigation is thus to obtain more information on the situation of gymnastic teaching to-day, as well as on the attitude of pupils to this instruction and spare time physical training, and thereby to extend the basis for reviewing the objectives and organization of the subject of gymnastics.

The Organization and Execution of the Investigation

The investigation has included random sample tests from the counties of Malmöhus, Stockholm, Örebro and Västerbotten. These counties were chosen in order to obatin the most representative results with regard to climate, premises and equipment. From each county 20 classes of the eighth school year and 10 classes from the second school year of the secondary school were chosen at random. The teachers of gymnastics who instructed these classes have thereby been included in the investigation. In all the investigation included 225 teachers of gymnastics, 920 secondary school pupils and 2,144 pupils of the eighth school year.

The collection of data was carried out with the aid of questionnaires addressed to both teachers and pupils. The investigation of the eighth school year was carried out during May, 1968, and the questions in the questionnaire referred to instruction given in the school year 1967-68. The investigation of the second year of the secondary school was carried out during the period April 21st-25th, 1969, and the questions in the questionnaire were concerned with the instruction given during the school year 1968-69 in those classes chosen for inclusion in the investigation.

The questionnaire addressed to the teachers was issued to all teachers who instructed classes included in the investigation. The questionnaire dealt with the following points.

1. The background data of the teachers (sex, age, education, seniority, stage of instruction, etc.).

2. Conditions with regard to premises and equipment.

3. The actual content of gymnastic and open-air activities during the school year, the actual amount of time devoted to different parts of the instruction and the attitude of the teachers to these parts.

4. The views of the teachers on marking and the evaluation of merit in the subject, its objectives and the teachers' wishes with regard to the number of hours to be devoted to gymnastics and their distribution throughout the week.

5. The occurrence of individualized instruction, marked tests, etc.

The questionnaire addressed to pupils was completed under the supervision of visiting investigators and included questions on the following main subjects:

1. Background data.
2. Interest in gymnastics compared with other subjects.

3. The attitude of the pupils to various parts and exercises included in gymnastic instruction and open-air activities.

4. Wishes as to the distribution of various principal parts.

5. The pupils' views on the premises, athletic equipment, marked tests, marking, competitions, showers and changing facilities, number of hours of gymnastics competitions, showers and changing facilities, number of hours of gymnastics per week, etc.

6. Athletic spare time activities.

Results Obtained to Date

Henrysson, S. och Hedberg, G, Rapport över undersökning om gymnastikundervisningen i årskurs 8 i Västerbottens län, vårterminen 1968. Report from Umeå School of Education 1969.

Engström, L-M. Gymnastikundervisningen i årskurs 8. Resultat av en enkät till gymnastiklärare rörande ämnets innehåll och målsättning. Report from Department of Education, Stockholm School of Education, No 44, 1969.

Hedberg, G, Gymnastikundervisningen på gymnasiet. Del 1. Nuvarande uppläggning enligt lärarenkät. Report No 8, 1970. University of Umeå and Umeå School of Education.

Engström, L-M, Gymnastikpedagogisk forskning. En litteraturöversikt. Report from Department of Education, Stockholm School of Education, No 47, 1970.

Hedberg, G, Gymnastikundervisningen på gymnasiet. Del 2. Lärarnas inställning till ämnet. No 10, 1970. University of Umeå and Umeå School of Education

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Engström, L-M, Elevernas inställning i årskurs 8 till gymnastikundervisningen innehåll och mål. Report from Department of Education, Stockholm School of Education, No 53, 1971.

Hedberg, G, Gymnastikundervisningen på gymnasiet. Del 3. Elevernas inställning till betygsättning. Report No 15, 1971. University of Umeå and Umeå School of Education.

Timetable

The results of the investigation will be reported in stages.
The investigation is planned to end during the school-year 1971-72.

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Ernest S. Barratt, Ph.D.
Principal Investigator

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I. Purpose and Background

The basic goal of this research was to determine the value of psychometric measures of impulsiveness and anxiety for predicting potential disciplinary problems among high school males. A secondary purpose was to relate impulsiveness and anxiety measures to academic achievement.

The specific questions answered in this research were: (1) Does the ratio of impulsiveness and anxiety relate to social adjustment among high school males when socio-economic status, intelligence, need-for-achievement, and study habits are held constant (i.e., statistically partialled out)? (2) Does the ratio of impulsiveness to anxiety relate to academic achievement among high school males when socio-economic status, intelligence, need-for-achievement, and study habits are held constant (i.e., statistically partialled out)? (3) Are there any differences in the above relationships in a public vs. a private high school?

In past studies, anxiety and impulsiveness were stable second-order orthogonal personality factors that interacted to influence behavior on a wide variety of laboratory tasks and in everyday life situations (1, 2, 3, 4). If a subject's impulsiveness was high and his anxiety was low, the influence of impulsiveness on both cognitive and skill behavior was more obvious than when the ratio between the two traits was higher. The basic question asked in this research is "to what extent do these two well-documented personality traits correlate with social adjustment among high school males?"

In addition to the work of Barratt (1, 2, 3, 4), there are a number of studies that relate to the rationale of this study. Matsushima (8) has devised a scale (Impulse Control Categorizations Instrument) for measuring impulse control among boys. In a study involving the performance of a "frustrating" task, Matsushima reported that no subjects who made a high score on the scale left the room while a high percentage of subjects making a low score did leave. Battle and Rotter (5) studied children's feelings of personal control with regard to whether there are separate internal _vs._ external control variables; they concluded that there is one internal-external control variable as a personality dimension.

Megargee (9) in a study of impulse control among assaultive and homicidal adolescents demonstrated a relationship between amount of control and hostility; they used psychometric techniques. At a theoretical level, Eysenck's (6) concept of extroversion is similar to impulsiveness as measured in this study except that impulsiveness as measured here involves more risk taking and "super-ego" measures.

Kogan and Wallach (7) found impulsiveness to be related to risk taking when anxiety was partialled out. Both impulsiveness and anxiety as measured in this study are second-order orthogonal factors that remained stable over time in adults in past studies (1, 3).

II. Procedure

A. Subjects. Subjects for this study were sophomore male high school students at Ball High School (N = 269) and Kirwin High School (N = 51) in Galveston, Texas. Ball is a public high school and Kirwin is a Catholic high school run by the Christian Brothers. (Note: the N will vary with analyses because complete data were not always available for all subjects).

B. Psychometric Scales. The following psychometric scales were group administered at both schools:

a. Barratt Impulsiveness Scale (1, 3);

b. The Rotter Incomplete Sentences Blank (Psychological Corp.);

c. The IPAT Culture Fair Intelligence Test, Scale 3 (Institute for Personality and Ability Testing, Champaign, Ill.);

d. The Guilford-Zimmerman Temperament Survey (Sheridan Supply Co.; Beverly Hills, Calif.);

e. The Channel Capacity Test; an experimental perceptual speed test designed by Dr. Winton Manning (College Boards, Inc.) and being developed in cooperation with Dr. Ernest Barratt; the test consists of a six separate two minute tests; in each test, the S is required to locate a discrepancy among the cells of two different figures (see Appendix A); the items on each successive test involve more cells to peruse; hence, a higher level of information pro cessing is reflected in each of the successive tests;

f. Brown-Holtzman Survey of Study Habits and Attitudes (Psychological Corporation);

g. Gough-Heilbrum Adjective Check List (Consulting Psychologists Press, Palo Alto, Calif.).

a. Teacher rating scale; an experimental scale developed for this study; two teachers rated each student on nine scales (seven pt. scales); (see Appendix A). The teachers were paid $.50/student for rating the students.

h. IPAT Anxiety Scale (Institute for Personality and Ability Testing, Champign, Ill.).

Table I contains a list of the total measures available on the above scales.

C. Personal Data.[1] The following personal data was obtained for each subject:

a. Age

b. Father's occupation (rated on six pt. scale)

c. Home address (dwelling area in town - rated on six pt. scale).

d. Parent's marital status

e. Student's ninth grade academic status and any available test data.

D. Criterion Data.

The following criterion data were collected for each student:

a. Conduct scores in at least two classes

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[1] In the results section below various personal data and criterion measures will be described in more detail. For example, father's occupation and dwelling area were combined to get a socio-economic class rating.

b. English grades
c. Math grades (for those students taking math)
d. Infractions listed in central office
e. Drop outs by mid term of the junior year

E. Data Analyses.

Statistical techniques appropriate for answering the different questions were used; techniques included factor analysis, analysis of variance, non-parametric ranking techniques (e.g., Wilcoxon's test for non-paired replicates, and chi square), and conventional parametric techniques. It will be obvious in the results section below what statistical techniques were used for answering specific questions and for exploring for relationships which were not part of the formal purpose of the study.

It became clear early in the data analyses that the criterion data were heavily influenced by the attitudes and personalities of the teachers. Thus, a number of analyses were performed relating predictor variables to criterion data for the students of individual teachers.

III. Results

A. Correlational and factor analyses of psychometric data.

Separate correlation and factor analyses were computed for the Ball H. S. and Kirwin H. S. data (Tables II through VII). The Ball High data were factor analyzed three different ways; because of the relatively small N, the Kirwin data were only submitted to power vector analysis and not promax or normalized principle axis analyses.

A surprising result in the correlation analysis was the significant correlation between the BIS and the IPAT Covert and Overt anxiety scales (Tables I & II). The BIS had never correlated significantly with any anxiety scales in any previous studies of this age group. No explanation for this finding is obvious from reviewing the overall test results. Since this result was obtained for both high schools, it cannot be interpreted as an artifact.

The power vector analyses for Ball High and Kirwin High did not produce consistent factors for the two populations. In the Ball High analysis the BIS had a high loading along with the SSHA on factor seven; the GZTS restraint scale had a moderate negative loading on this factor and masculinity had a moderate positive loading. Anxiety measures did not have a significant loading on this factor but did help define a separate factor along with several other scales from the GZTS.

In the power vector analyses of the Kirwin High data, the BIS and GZTS restraint scale defined an impulsiveness-restraint factor, (Factor 2) on which the anxiety measures had low loadings. Factor five was a clear anxiety-objectivity factor and the BIS and GZTS restraint loadings were low on this factor. These results are more in line with past factor analyses in which impulsiveness and anxiety measures defined separate orthogonal factors.

In the promax factor analysis (Table VI) of the Ball H. S. data, factor seven clearly reflected the variables which are of interest in this study; this factor was defined by high loadings of the GZTS restraint scale, the BIS, the SSHA, and moderate loadings of the IPAT covert anxiety scale and the GZTS thoughtfulness scale. This same factor (factor seven) was obtained in the normalized principle axis solution (also, factor seven) of the Ball H. S. data (Table VII). Both of these analyses suggest that anxiety and impulsiveness are negatively related to good study habits. Since a number of validity studies (see manual for SSHA) have shown that SSHA relates positively to academic achievement, this is considered to indirect (factorial validity) evidence supporting the basic hypothesis of this study.

B. Anxiety and Impulsiveness related to Social Adjustment and Academic Achievement.

The suitability of the criterion measures for social adjustment was difficult to assess. The infractions listed in the central office files were available but the majority of students had no infractions; hence, it was not meaningful to do a correlational analysis with infractions as a criterion. Students did have conduct grades and these were used as a social criterion measure in a correlational analysis. Since all students in both schools were taking English, English grades were primarily used as a criterion measures for academic achievement.

For both Ball H. S. and Kirwin H. S. the ratio of impulsiveness to anxiety was not significantly correlated with English grades when intelligence (CFIT), study habits, the need for achievement (ACL), and socio-economic status were partialled out. ($r_{123456} = .05$ for both schools). The following relationships were obtained as part of this analysis:

(1) Intelligence (CFIT) was significantly related to English grades for Ball H. S. ($r = .25$, $p < .05$) but not for Kirwin H. S. ($r = .02$);

(2) Study Habits (SSHA) were significantly related to English grades for both schools (Ball H. S., $r = .37$, $p < .01$; Kirwin H. S., $r = .43$, $p < .01$);

(3) Socioeconomic status was significantly related to English grades for Ball H. S. ($r = .27$; $p < .05$) but was not related to English grades for Kirwin H. S. ($r = -.08$).

(4) Intelligence (CFIT total score) was significantly correlated with socioeconomic status for Ball H. S. ($r = .22$; $p < .05$) but not for Kirwin H. S. ($r = -.18$).

(5) Study habits were significantly correlated with need for achievement (ACL) for both Ball H. S. ($r = .19$, $p < .05$) and Kirwin H. S. ($r = .28$, $p < .05$);

(6) Study habits were not significantly correlated with socio-economic status for either school.

Using infractions reported to the central office at Ball H. S. as a criterion of social adjustment, three groups of students were selected to relate to impulsiveness: (1) serious offenders (N = 22); these were students who were either truant or were involved in fights (or both) and who had been reported to the central office at least three times (at least one offense was for truancy or fighting); (2) less serious offenders (N = 77); these students were those reported to the central office who did not meet the above definition of a serious offender; although some of them had been reported to the office many times it was for offenses that were not flagrant violations of the mores (e.g., smoking in the halls or talking in class); (3) non-offenders (N = 179); these were students who were not reported to the central office.

Dividing the three groups at the median (14) on the BIS, the chances are 18 out of 22 that a serious offender will be above the median on impulsiveness; the other two groups divided about evenly about the median (Table IX).

There were only four boys at Kirwin H. S. who fit the above definition of a serious offender: Three of these boys had very high impulsiveness scores (19, 20, and 21); the fourth boy answered only half of the BIS items and put a note on the answer sheet that the "questions were silly." Thus, approximately the same percentage of boys were serious offenders at both schools and the probability of a serious offender at both schools being above the median on impulsiveness was significant.

Data were available on eighteen boys at Ball H. S. who dropped out of school after starting their sophomore year and having taken the tests for this study. These eighteen boys did not include those who moved from Galveston or who dropped out because of illness. Twelve of the eighteen boys had impulsiveness scores above the median (i.e., 14 on the BIS).

C. Psychometric Scales related to Academic Achievement and Social Adjustment.

On the basis of the factor analyses, fourteen psychometric scales which had high loadings on various factors were selected as predictor variables and related to academic achievement and social adjustment criterion measures. The fourteen psychometric scales were: (1) CFIT - Test 3; (2) Study Habits, (SSHA); (3) Covert Anxiety, (IPAT); (4) Overt Anxiety, (IPAT); (5) Sociability (GZTS); (6) Ascendance (GZTS); (7) Intelligence (CFIT-Tot. Sc.); (8) Impulsiveness (BIS); (9) Favorable Adj. Chk'd. (ACL); (10) Unfavorable Adj. Chk'd (ACL); (11) Dominance (ACL); (12) Nurturance (ACL); (13) Succorance (ACL); (14) Self Control (ACL).

The SSHA was the best predictor of math and English grades at both high schools (Tables, X, XI, XII, XIII). Impulsiveness and anxiety contributed little to the multiple prediction of math and English grades at both schools. The other psychometric variables also selected for these analyses added very little significant variance to the prediction of math and English grades at both schools.

Three additional psychometric scales in addition to the above fourteen scales were used in a step down regression analysis using conduct grades in English classes as a criterion of social-adjustment at Ball H. S.: (1) self confidence (ACL); (2) lability (ACL); (3) masculinity (GZTS).

The best predictors of conduct grades in English classes were a perceptual speed test (CCT-3), sociability (GZTS), and masculinity (GZTS) (Table XIV). It is interesting to note that overt and covert anxiety were related to conduct scores in opposite directions in this analysis (Table XIV). Neither impulsiveness nor anxiety, however, were highly related to conduct scores for the entire class. (Because of the small N and the number of different teachers involved, this analysis was not computed for Kirwin H. S.).

A three way analysis of variance, (Table XV) combining data from Ball H. S. and Kirwin H. S. and including grade point average, impulsiveness, and anxiety related to conduct scores indicated: (1) impulsiveness interacted with anxiety to related to conduct scores (Fig. 2 and Fig. 3); the significant F was due primarily to the interaction of low impulsiveness with medium anxiety scores, a finding which is difficult to interpret; (2) conduct scores were highly related to grade point average (Fig. 1); students with high grade point averages made "good" conduct scores and vice versa.

D. Multivariate Analyses involving individual teachers.

On an a priori basis it was concluded that the conduct scores as a measure of social adjustment should not be combined for different teachers because of the probable subjective attitude of the teachers in assigning the conduct scores. The individual teacher's personalities would certainly be a variable in assigning conduct scores. Also, as noted above, the performance of students would be related to the teacher's assessment of a student's conduct. To try to evaluate the extent to which the various teachers assigned conduct grades differently, a rating scale (see Appendix A) was devised to assess some of the teacher's attitudes toward students. The teachers were paid $.50 per student to complete the rating scale. These teacher's ratings and psychometric scales were then related as predictor variables to conduct scores and class grades as criterion variables. These analyses were concentrated primarily on Ball H. S. data because of the small N at Kirwin H. S. Summaries of these analyses will be presented below. These analyses must be interpreted cautiously because of the small N involved in the analyses of some classes. Many analyses were performed which will not be presented here in detail. Only those analyses are presented in detail which give some insight into the extent to which teachers differ in their assessement of students. The remaining analyses will be briefly summarized.

Teacher's ratings vs. fourteen psychometric variables (Ball H. S. English Teachers).

The r's between teacher's ratings and the fourteen psychometric variables (listed above) were computed for the seven English teachers at Ball H. S. These R matrices are contained in appendix B.

Fourteen psychometric variables vs. English grades for teachers.

As can be seen in Table XVI, no single psychometric scale was consistently related to the grades of the different English teachers. Covert anxiety (IPAT) had the most consistent relationship of any of the fourteen psychometric scales with English grades.

Teacher's ratings vs. English Grades (Ball H. S.).

The reliability of the teachers rating scale was obtained by correlating the English teachers ratings with those of other teachers. Since English was the only subject which all students were taking, the "other teachers" included math, P.E., band, and military science teachers (Table XVIII). Considering the heterogeneity of the "other teachers", the interrater reliabilities of the various scales are surprisingly high and compare favorably with the reliabilities of a number of scales used in psychiatric and other clinical settings.

The "dependable scale" of the teacher's rating scale had a consistently high relationship with English grades for all teachers (Table XVII). Although the various teachers undoubtedly had their own concept of dependability, this scale was significantly related to English grades in all classes.

Except for teacher Y, the bright-dull scale was also significantly related to English grades. Although one can't determine from these data which is most basic, the teacher's perception of a student as bright or dull correlates highly with the grades the student makes. However, teacher's perception of the student as bright or dull does not correlate significantly with his intelligence (see Appendix B).

Fourteen psychometric scales related to English grades (Ball H. S.) with teacher's ratings partialled out.

After partialling out the variance related to each teacher's ratings, no psychometric variable was consistently related to English grades for all teachers (Table XVIII). For three teachers (A, B, and Y), the relationship of several of the psychometric scales to grades was almost a perfect relationship. For the remaining four teachers, the relationship between the psychometric scales and grades was not much enhanced by partialling out the variance related to the teacher's ratings.

Fourteen psychometric variables related to English conduct grades (Ball H. S.) for each teacher.

The best overall psychometric predictor of conduct grades given by individual English teachers at Ball H. S. was the SSHA; except for teacher P, SSHA was one of the four best predictors for each teacher (Table XIX).

Although different predictors were involved for each teacher, the four best psychometric predictors for each teacher were significantly related to conduct grades for each teacher.

Thirteen psychometric scales related to conduct grades (English classes, Ball H. S.) with teacher's ratings partialled out.

Again, no psychometric scale was significantly related to conduct grades for all teachers when the teacher's ratings were partialled out (Table XX). Dominance (ACL) had the most consistent relationship with conduct grades in this analysis; it was significantly related to conduct grades for four teachers and was almost significant for a fifth teacher.

Impulsiveness and anxiety related to conduct grades by teachers (English, Ball H. S.) with intelligence, study habits, and need for achievement partialled out.

No significant relationships were obtained between impulsiveness and anxiety as predictors and conduct scores for individual English teacher (Ball H. S.) as criterion measures when intelligence, need for achievement, and study habits were partialled out (Table XXI).

Distribution of conduct grades by English teachers (Ball H. S.).

As noted earlier no consistent relationships between psychometric scales and conduct grades were obtained. This is not surprising considering the differences in the teacher's ratings of students and also the differences in the distribution of conduct scores for the various teachers (Table XXII). It is interesting to note that for the two English teachers (G & Y) whose classes had the lowest average study habits scores, the teachers conduct scores were also distributed toward the low end of the range for conduct scores.

E. Item Analyses of BIS.

Since the SSHA scale has been well standardized and since the appropriateness of the social adjustment and academic achievement criteria measures were questionable in this study, an item analysis of the BIS was done against the SSHA scale. This analysis is still in progress and will be expanded into on M.A. thesis for Mrs. Eva Levy. The students at Ball H. S. were divided into high, medium, and low groups according to their study habits; it was then noted whether they answered an item as T or F on the BIS. A 2 x 3 chi square analysis was done for each item. Some of the items on the BIS which were significantly related to the SSHA scale:

(1) I like to take a chance just for the excitement; students with poor study habits answer this question true more often than they answer it false;

(2) I usually think before I act; very few students with good study habits answer this false while a large number of students with poor study habits answer it false;

(3) I like to solve complex problems; good study habit students answer this true significantly more often than students with poor study habits;

(4) I consider myself always careful; students with good study habits answer true more often while students with poor study habits answer false;

(5) I like work requiring patience and carefulness; students with good study habits answer this true more often than students with poor study habits;

(6) I like work involving competition; students with good study habits answer true more often than students with poor study habits;

(7) I easily become impatient with people; students with poor study habits answer ture more often than students with good study habits;

(8) It is easy for me to concentrate on my work; students with good study habits answer this true more often than students with poor study habits;

(9) My interests tend to change quickly; students with good study habits answer this false significantly more often than they answer it true; the reverse is true for students with poor study habits.

Although other items discriminate between students with good and poor study habits, these items had the highest chi square values.

F. Rotter Incomplete Sentences Blank. (ISB)

The ISB was scored by two raters, one a college sophomore, the other a graduate psychology student. The correlation between the total adjustment scores for both raters was .869 ($p < .001$). The total adjustment score was significantly negatively related to impulsiveness (BIS) for both Kirwin H. S. and Ball H. S. students. The analysis of the ISB is still in progress and will also be included as part of Mrs. Levy's M.A. thesis.

IV. Discussion and Summary of Results

The most significant findings of this study are:

(1) Impulsiveness and anxiety were not obtained as separate factors in either the normalized principle axis or the promax factor analyses; also, anxiety had a low but significant correlation with impulsiveness. In previous studies with college students and medical students, this result had not been obtained in comparably large samples. Also, in smaller samples of high school age students, impulsiveness and anxiety were never correlated. Thus, it was surprising to obtain this result in this study. It is possible that the selection of high school students in previous studies had led to biased samples in which impulsiveness and anxiety are not correlated. Since the lack of relationship between impulsiveness and anxiety is well established in large samples of college age students, it is possible that the clear separation of impulsiveness and anxiety is a personality characteristic that becomes more evident sometime between the beginning of high school and the beginning of college. It is also possible that it is not characteristic of the general population but in only ~~fairly~~ highly selected college students or medical students. This is an interesting result that needs further study.

(2) Impulsiveness (BIS) and anxiety (IPAT anx.) were related to study habits (SSHA) in both the normalized principle axis factor analysis and in the promax factor analysis; since the SSHA has been demonstrated to be related to achievement in a number of other studies, this finding is in-

direct evidence for the role of anxiety and impulsiveness in academic achievement.

(3) Both serious offenders and school drop-outs are characterized by high impulsiveness. These two categories of social adjustment are considered more objective measures of social adjustment than are the less serious infractions and conduct scores. It is quite obvious that teachers are very subjective in assigning conduct scores; their evaluations are colored by a student's achievement plus the reflection of their own personality. Although high impulsiveness scores do not mean that a student will necessarily be a serious offender, if a student is a serious offender, the chances are 9 out of 11 that he will have a high impulsiveness score.

(4) For both Ball H. S. and Kirwin H. S., the ratio of impulsiveness to anxiety was not significantly correlated with English grades (as criterion of academic achievement) when intelligence (CFIT), study habits (SSHA), the need for achievement (ACL), and socio-economic status were partialled out.

(5) No psychometric scale consistantly related to achievement or social adjustment for all teachers, even when teachers ratings, socio-economic status, need for achievement and certain other variables were partialled out. However, for each teacher there were at least four psychometric variables that correlated with conduct grades and academic achievement when the teacher's ratings of the students were partialled out. This suggests that knowing something about

the teacher's personalities is a prerequisite for predicting academic achievement and social adjustment for students with different personality patterns. In some instances, partialling out the teacher's ratings resulted in very high relationships of the psychometric scales to the students achievement and social adjustment scores for that teacher. Since the teacher's rating scale used in this study was not well standardized (although it had a respectable inter-rater reliability) this phase of the study should be followed up in further research. An effort should be made to provide a way of evaluating teacher's personalities and to weight their personality scores as part of the total equation for predicting a student's social adjustment or academic achievement.

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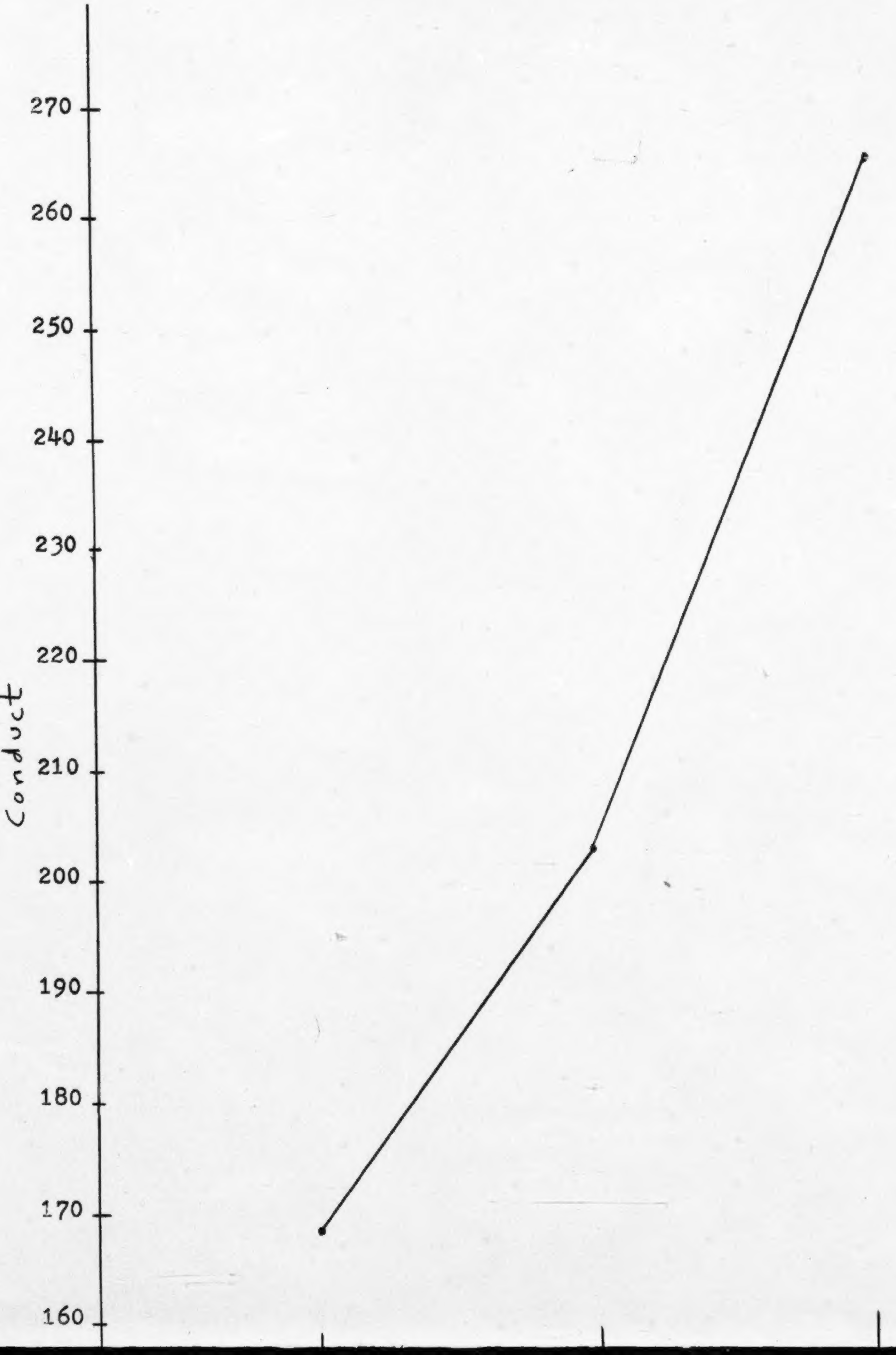

Conduct
270
260
250
240
230
220
210
200
190
180
170
160

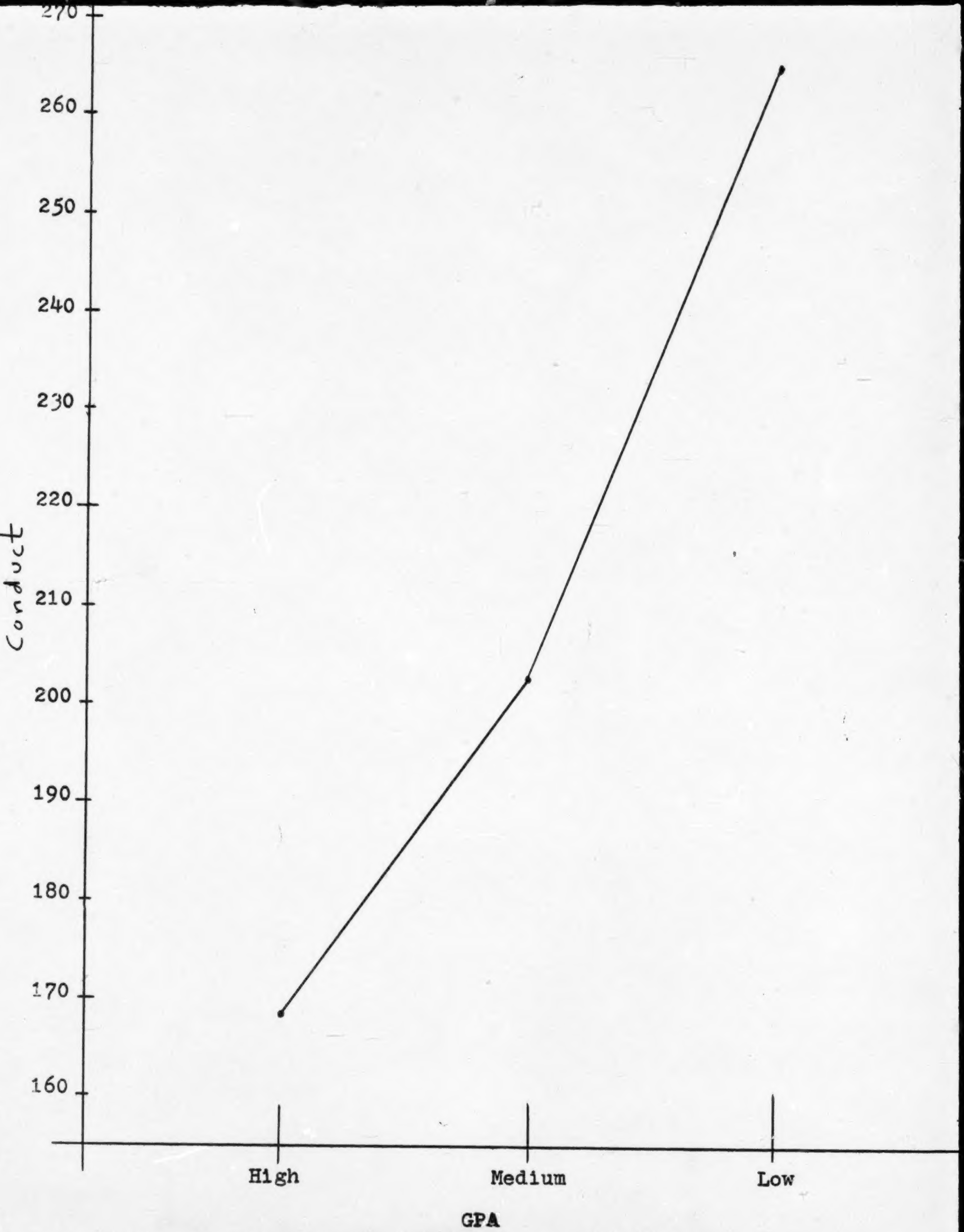
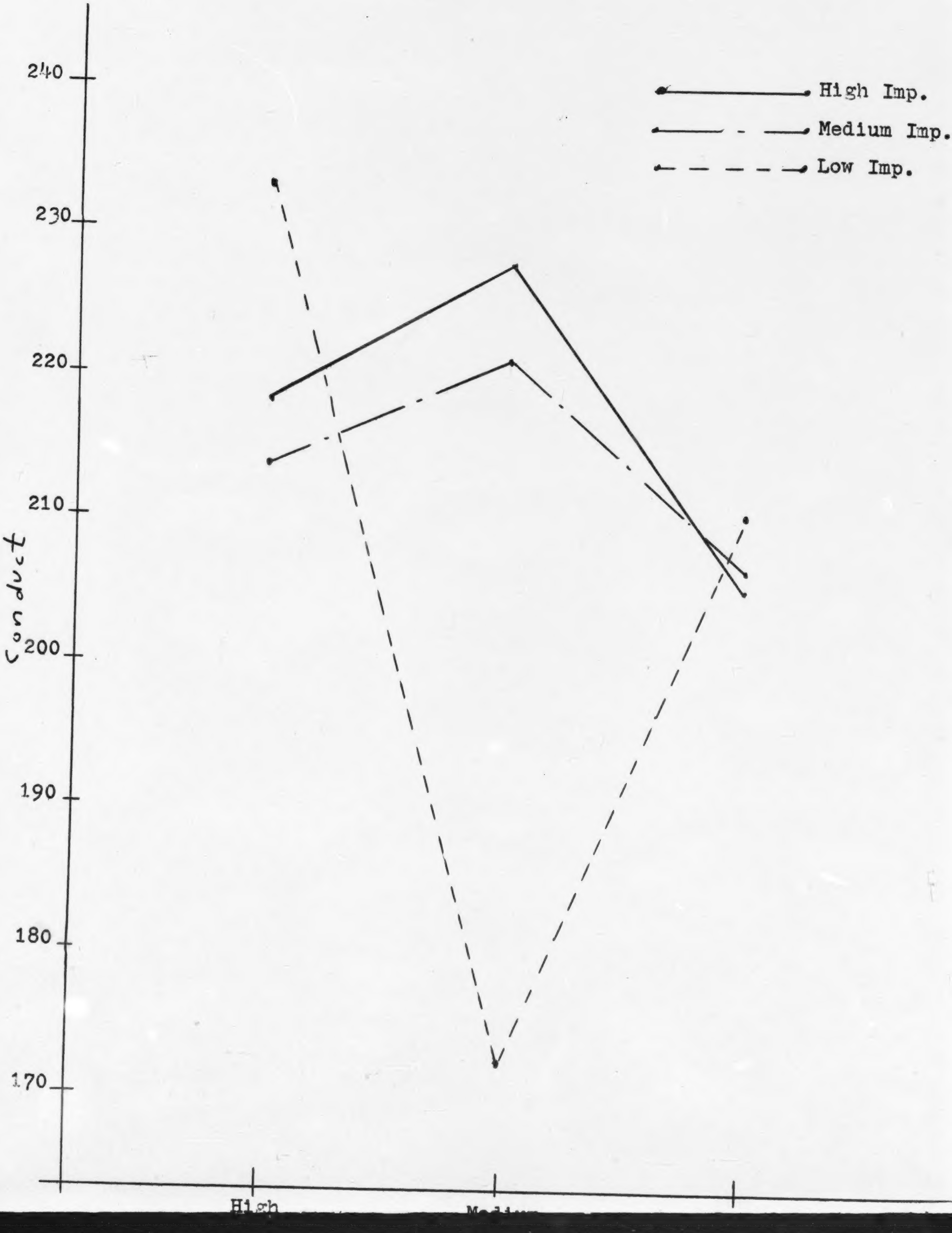


Fig. 1. Conduct scores related to Grade Point Average (GPA); combined data for Ball H. S. and Kirwin H. S.


High Imp.
Medium Imp.
Low Imp.
240
230
220
210
200
190
180
170
Conduct
High

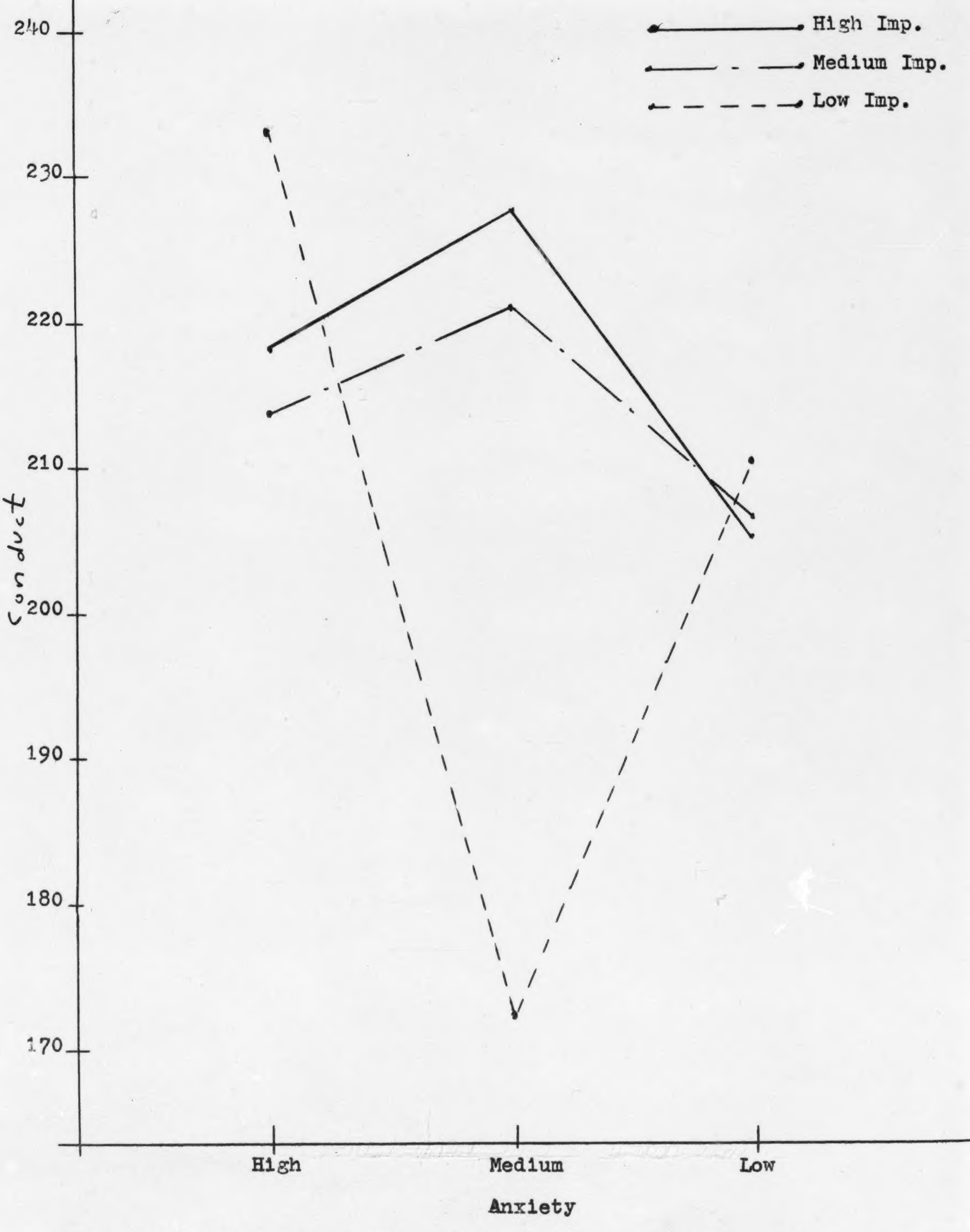
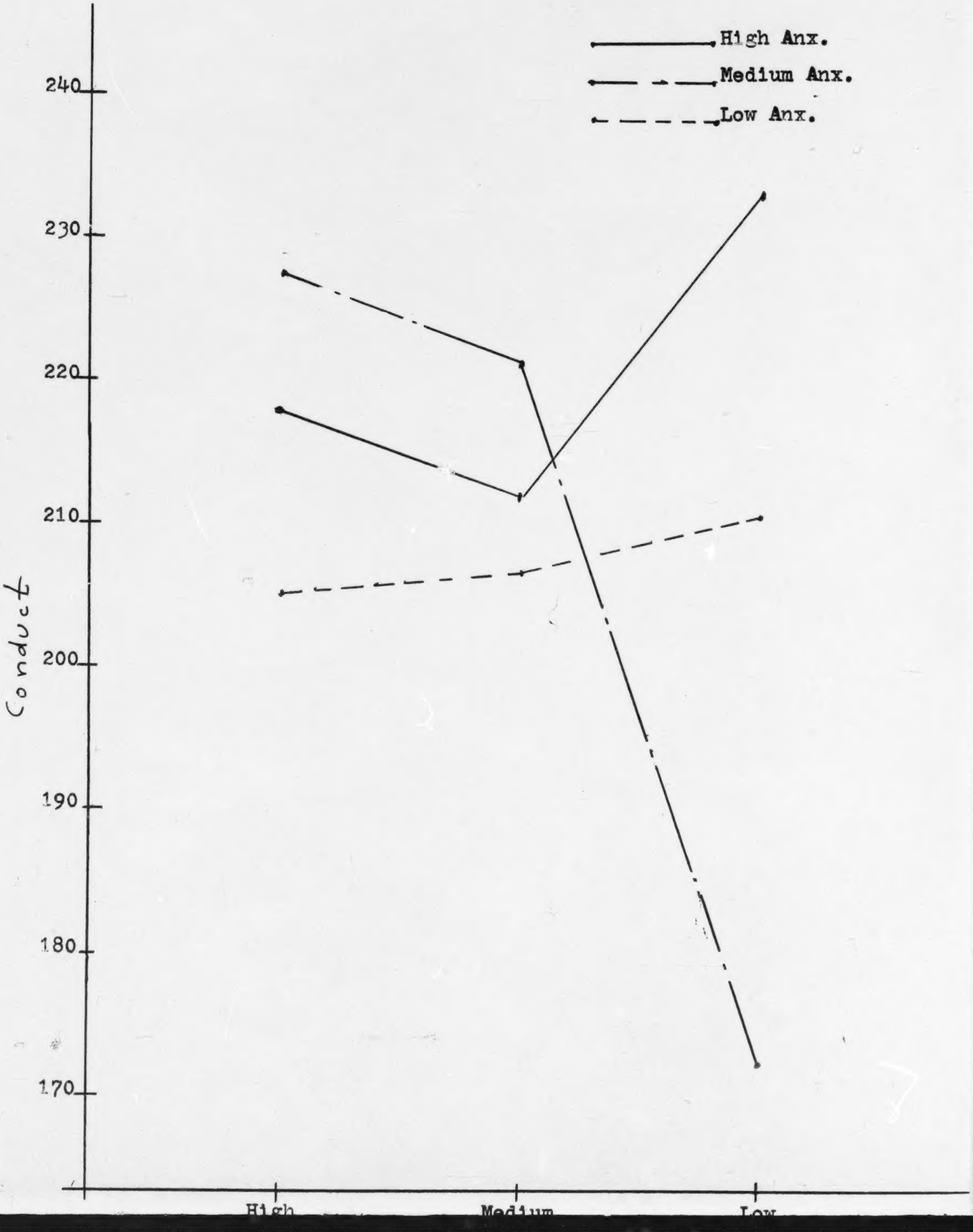


Fig. 2. Anxiety and Impulsiveness related to conduct scores.


High Anx.
Medium Anx.
Low Anx.
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Conduct
High
Medium
Low

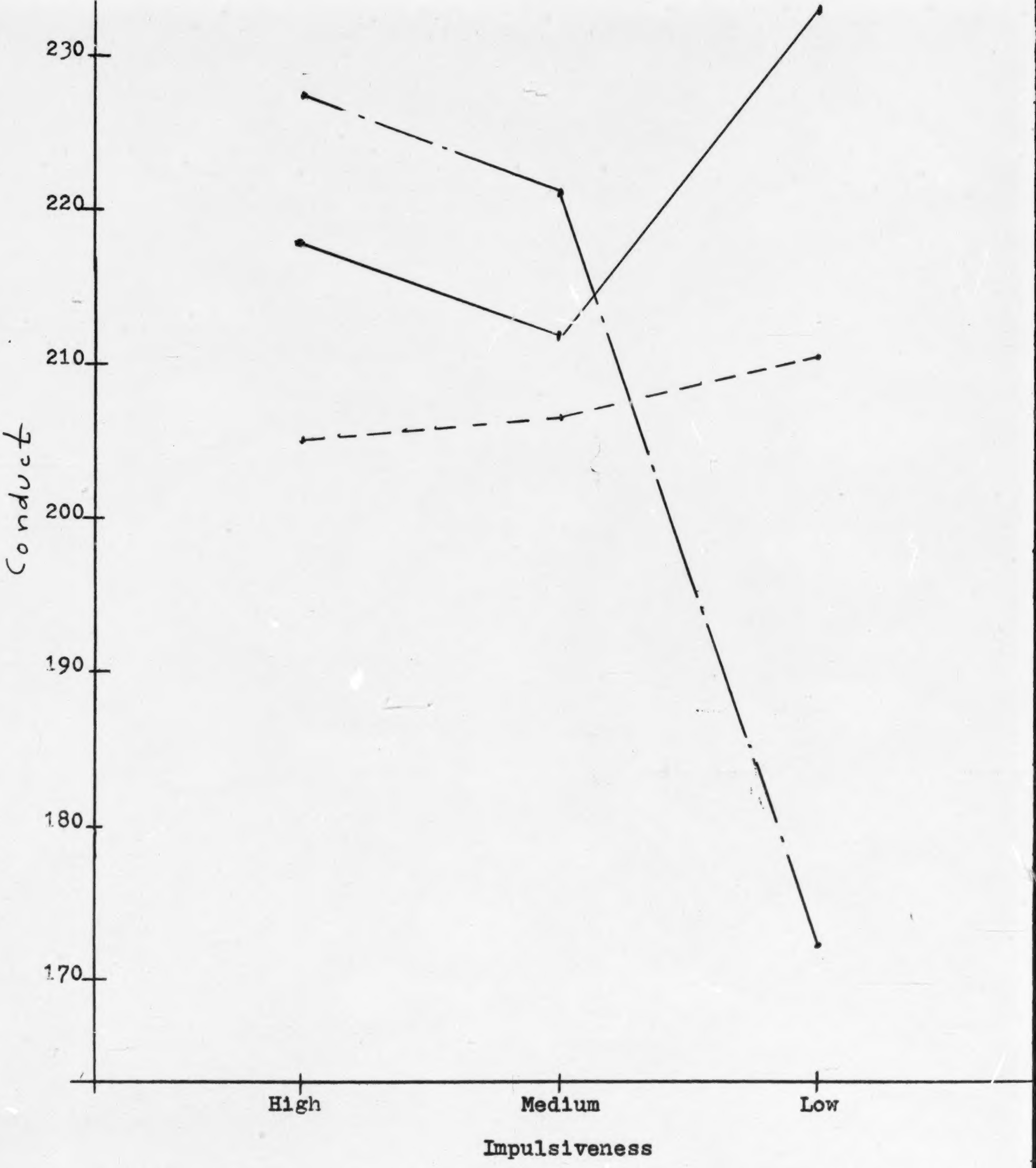

Fig. 3. Impulsiveness and Anxiety related to conduct scores.

Table I. List of Psychometric Variables.*

1. Series (Test 1-CFIT)	IPAT Culture Fair Intelligence Scale
2. Classifications (Test 2-CFIT)	
3. Matrices (Test 3-CFIT)	
4. Conditions (Topology) (Test 4-CFIT)	
5. Total Score (Tot. Sc.-CFIT)	
6. Study Habits and Attitudes (SSHA)	Brown-Holtzman Study Habits Inv.
7. Total Words (Tot. Wds.-ISB)	Rotter Sentence Completion Test
8. Perceptual Speed, (1,58 Bits); (Test 1-CCT)	Channel Capacity Test
9. Perceptual Speed, (2.00 Bits); (Test 2-CCT)	
10. Perceptual Speed, (3.17 Bits); (Test 3-CCT)	
11. Perceptual Speed, (4.00 Bits); (Test 4-CCT)	
12. Perceptual Speed, (4.64 Bits); (Test 5-CCT)	
13. Perceptual Speed, (5.17 Bits); (Test 6-CCT)	
14. Impulsiveness Score (BIS)	BIS
15. Covert Anxiety (Cov. Anx. IPAT)	IPAT Anxiety Scale
16. Overt Anxiety (Ov. Anx. IPAT)	
17. General Activity (Gne'l. Act. GZTS)	Guilford-Zimmerman Temperament Survey.
18. Restraint (Rest. GZTS)	
19. Ascendance (Ascend. GZTS)	
20. Sociability (Sociab. GZTS)	
21. Emotional Stability (Emot. Stab. GZTS)	
22. Objectivity (Ob. GZTS)	
23. Friendliness (Friend. GZTS)	
24. Thoughtfulness (Thoughtful. GZTS)	
25. Personal Relations (Person. Rel. GZTS)	
26. Masculinity (Mascul. GZTS)	
27. Total Adjectives checked (Tot. Adj. ACL)	
28. Number of Favorable Adjectives checked (Fav. Adj. ACL)	
29. Number of Unfavorable Adjectives checked (Unfav. Adj. ACL)	
30. Self Confi	

4. Conditions (Topology) (Test 4-CFIT)	Intelligence Scale
5. Total Score (Tot. Sc.-CFIT)	
6. Study Habits and Attitudes (SSHA)	Brown-Holtzman Study Habits Inv.
7. Total Words (Tot. Wds.-ISB)	Rotter Sentence Completion Test
8. Perceptual Speed, (1,58 Bits); (Test 1-CCT)	Channel Capacity Test
9. Perceptual Speed, (2.00 Bits); (Test 2-CCT)	
10. Perceptual Speed, (3.17 Bits); (Test 3-CCT)	
11. Perceptual Speed, (4.00 Bits); (Test 4-CCT)	
12. Perceptual Speed, (4.64 Bits); (Test 5-CCT)	
13. Perceptual Speed, (5.17 Bits); (Test 6-CCT)	
14. Impulsiveness Score (BIS)	BIS
15. Covert Anxiety (Cov. Anx. IPAT)	IPAT Anxiety Scale
16. Overt Anxiety (Ov. Anx. IPAT)	
17. General Activity (Gne'l. Act. GZTS)	Guilford-Zimmerman Temperament Survey.
18. Restraint (Rest. GZTS)	
19. Ascendance (Ascend. GZTS)	
20. Sociability (Sociab. GZTS)	
21. Emotional Stability (Emot. Stab. GZTS)	
22. Objectivity (Ob. GZTS)	
23. Friendliness (Friend. GZTS)	
24. Thoughtfulness (Thoughtful. GZTS)	
25. Personal Relations (Person. Rel. GZTS)	
26. Masculinity (Mascul. GZTS)	
27. Total Adjectives checked (Tot. Adj. ACL)	Gough-Heilbrun Adjectiv Check List.
28. Number of Favorable Adjectives checked (Fav. Adj. ACL)	
29. Number of Unfavorable Adjectives checked (Unfav. Adj. ACL)	
30. Self Confidence (Self. Conf. ACL)	
31. Self Control (Self. Cont. ACL)	
32. Lability (Labile ACL)	
33. Personal Adjustment (Person. Adj. ACL)	
34. Achievement (Achiev. ACL)	
35. Dominance (Domin. ACL)	

Table I. Con't[*]

36. Endurance (Endur. ACL)
37. Order (Order. ACL)
38. Intraception (Intracept. ACL)
39. Nurturance (Nurtur. ACL)
40. Affiliation (Affiliat. ACL)
41. Heterosexuality (Heterosex. ACL)
42. Exhibition (Exhib. ACL)
43. Autonomy (Auton. ACL)
44. Aggression (Aggress. ACL)
45. Change (Change ACL)
46. Succorance (Succor. ACL)
47. Abasement (Abase. ACL)
48. Deference (Defer. ACL)
50. Counseling Readiness
51. Defensiveness
52. Adjustment Score (Lower Score Better Adj.)

Gough-Heilbrun Adjective Check List (con't)

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[*] First 48 variables included in factor analyses

40. Affiliation (Affiliat. ACL)
41. Heterosexuality (Heterosex. ACL)
42. Exhibition (Exhib. ACL)
43. Autonomy (Auton. ACL)
44. Aggression (Aggress. ACL)
45. Change (Change ACL)
46. Succorance (Succor. ACL)
47. Abasement (Abase. ACL)
48. Deference (Defer. ACL)
50. Counseling Readiness
51. Defensiveness
52. Adjustment Score (Lower Score Better Adj.)

Gough-Heilbrun Adjective
Check List (con't)

*First 48 variables included in factor analyses

Table II. R Matrix-Ball High School
(N = 269; r = .121 for p<.05; r = .164 for p<.01)

	Factors												
	I	2	3	4	5	6	7	8	9	10	11	12	13
1.	-												
2.	189	-											
3.	308	175	-										
4.	250	085	304	-									
5.	680	513	720	643	-								
6.	022	017	034	-002	033	-							
7.	-092	-016	034	-046	-034	065	-						
8.	309	087	376	401	457	100	042	-					
9.	292	094	390	337	451	180	063	730	-				
10.	319	123	388	283	453	108	-036	618	797	-			
11.	281	047	373	256	405	112	-068	538	718	842	-		
12.	329	170	354	286	454	091	034	462	545	658	686	-	
13.	245	070	312	169	321	045	004	467	542	628	625	586	-
14.	050	-072	-029	003	-026	-361	-030	068	015	014	013	-032	073
15.	086	010	042	099	092	-434	150	-003	-124	-110	-123	-045	-082
16.	-020	013	036	050	040	-372	201	-028	-098	-141	-108	000	-067
17.	010	-085	027	-011	004	080	-011	096	091	079	096	083	121
18.	-063	026	-045	-008	-035	444	112	-015	104	-001	023	-016	-027
19.	026	-033	088	049	048	184	044	110	115	049	027	-006	057
20.	-004	-024	-014	-095	-056	194	027	004	073	068	065	061	089
21.	016	-053	-027	015	-022	313	-132	018	105	087	112	-027	-006
22.	022	050	054	041	055	264	-098	037	100	038	040	-027	079
23.	-096	007	030	-042	-036	285	089	005	090	028	052	-049	-004
24.	-027	031	016	061	038	282	125	047	105	052	077	020	016
25.	-043	-003	-041	-020	-048	153	-023	003	005	009	046	041	046
26.	006	053	106	141	103	076	057	133	171	083	117	027	042
27.	165	035	151	110	148	051	067	110	160	129	125	161	149
28.	108	-041	152	069	101	154	052	093	166	138	138	158	156
29.	157	073	106	105	128	-026	062	092	115	085	072	126	090

4.	250	085	304	-									
5.	680	513	720	643	-								
6.	022	017	034	-002	033	-							
7.	-092	-016	034	-046	-034	065	-						
8.	309	087	376	401	457	100	042	-					
9.	292	094	390	337	451	180	063	730	-				
10.	319	123	383	283	453	108	-036	618	797	-			
11.	281	047	373	256	405	112	-068	538	718	842	-		
12.	329	170	354	286	454	091	034	462	545	658	686	-	
13.	245	070	312	169	321	045	004	467	542	628	625	586	-
14.	050	-072	-029	003	-026	-361	-030	068	015	014	013	-032	073
15.	086	010	042	099	092	-434	150	-003	-124	-110	-123	-045	-082
16.	-020	013	036	050	040	-372	201	-028	-098	-141	-108	000	-067
17.	010	-085	027	-011	004	080	-011	096	091	079	096	083	121
18.	-063	026	-045	-008	-035	444	112	-015	104	-001	023	-016	-027
19.	026	-033	088	049	048	184	044	110	115	049	027	-006	057
20.	-004	-024	-014	-095	-056	194	027	004	073	068	065	061	089
21.	016	-053	-027	015	-022	313	-132	018	105	087	112	-027	-006
22.	022	050	054	041	055	264	-098	037	100	038	040	-027	079
23.	-096	007	030	-042	-036	285	089	005	090	028	052	-049	-004
24.	-027	031	016	061	038	282	125	047	105	052	077	020	016
25.	-043	-003	-041	-020	-048	153	-023	003	005	009	046	041	046
26.	006	053	106	141	103	076	057	133	171	083	117	027	042
27.	165	035	151	110	148	051	067	110	160	129	125	161	149
28.	108	-041	152	069	101	154	052	093	166	138	138	158	156
29.	157	073	106	105	128	-026	062	092	115	085	072	126	090
30.	-003	062	160	077	114	215	056	140	148	085	079	066	080
31.	-172	-044	-027	-073	-117	081	-005	-151	-027	-052	-054	002	-022
32.	-017	026	144	-006	044	053	023	004	084	067	043	093	037
33.	037	-036	074	013	051	150	-048	-008	093	009	060	-061	-002
34.	035	-061	135	040	064	199	-005	047	067	013	040	078	-002

Table II. con't

	Factors												
	14	15	16	17	18	19	20	21	22	23	24	25	26
1.													
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9.													
10.													
11.													
12.													
13.													
14.	-												
15.	249	-											
16.	136	577	-										
17.	133	-146	-225	-									
18.	-360	-426	-225	234	-								
19.	118	-237	-225	484	299	-							
20.	112	-316	-284	535	244	655	-						
21.	-156	-509	-552	421	401	375	429	-					
22.	-115	-510	-460	199	391	246	293	658	-				
23.	-235	-453	-271	085	464	093	112	498	646	-			
24.	-137	-134	-057	310	506	368	344	203	185	212	-		
25.	-041	-303	-271	254	217	193	245	431	552	470	277	-	
26.	103	-243	-229	284	240	302	285	390	489	349	304	341	-

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12.													
13.													
14.	-												
15.	249	-											
16.	136	577	-										
17.	133	-146	-225	-									
18.	-360	-426	-225	234	-								
19.	118	-237	-225	484	299	-							
20.	112	-316	-284	535	244	655	-						
21.	-156	-509	-552	421	401	375	429	-					
22.	-115	-510	-460	199	391	246	293	658	-				
23.	-235	-453	-271	085	464	093	112	498	646	-			
24.	-137	-134	-057	310	506	368	344	203	185	212	-		
25.	-041	-303	-271	254	217	193	245	431	552	470	277	-	
26.	103	-243	-229	284	240	302	285	390	489	349	304	341	-
27.	148	021	014	327	037	239	234	063	039	-118	235	067	213
28.	108	-120	-134	373	124	272	320	152	081	-075	228	127	233
29.	126	134	139	236	-033	160	101	-057	-011	-120	182	-027	149
30.	030	-063	-144	149	094	196	148	147	193	102	045	126	227
31.	-075	-118	-094	033	099	-010	071	063	077	119	003	073	075
32.	064	000	021	175	092	147	122	056	-018	-130	175	-071	088
33.	041	-256	-226	242	192	138	228	297	166	070	123	121	191
34.	-047	-147	-170	321	201	211	201	170	049	018	238	088	149

Table II. con't

	Factors												
	I	2	3	4	5	6	7	8	9	10	11	12	13
35.	049	-013	192	125	150	091	058	087	105	069	043	088	072
36.	026	-135	105	031	034	300	-031	071	113	085	107	035	050
37.	122	-036	174	113	154	153	058	103	168	136	160	114	124
38.	126	008	173	177	195	225	050	161	186	158	139	096	133
39.	-108	-001	104	-066	004	165	058	013	045	072	086	085	090
40.	124	-001	175	065	120	037	098	100	157	136	151	176	162
41.	164	-039	165	-009	110	154	048	072	125	125	126	157	153
42.	147	068	195	220	252	-131	054	233	127	164	120	125	139
43.	109	025	081	138	118	-131	036	040	033	025	-005	020	017
44.	009	089	010	028	036	-045	029	-029	-011	-065	-122	-137	-082
45.	035	-097	-008	048	-003	-155	020	006	-023	000	-020	-015	009
46.	094	080	119	065	097	-015	060	160	149	173	145	143	151
47.	-042	-017	-065	-188	-142	138	035	-041	024	062	076	-022	047
48.	-049	-104	-020	-145	-122	112	128	-080	008	031	074	034	-022
$\bar{X}$	6.905	3.229	4.960	4.657	19.61	29.91	191.1	16.26	20.35	15.40	10.78	7.105	5.253
σ	1.583	1.407	1.805	1.567	4.135	12.81	49.56	10.24	9.758	6.549	4.259	2.989	2.476

39.	-108	-001	104	-066	004	165	058	013	045	072	086	085	090
40.	124	-001	175	065	120	037	098	100	157	136	151	176	162
41.	164	-039	165	-009	110	154	048	072	125	125	126	157	153
42.	147	068	195	220	252	-131	054	233	127	164	120	125	139
43.	109	025	081	138	118	-131	036	040	033	025	-005	020	017
44.	009	089	010	028	036	-045	029	-029	-011	-065	-122	-137	-082
45.	035	-097	-008	048	-003	-155	020	006	-023	000	-020	-015	009
46.	094	080	119	065	097	-015	060	160	149	173	145	143	151
47.	-042	-017	-065	-188	-142	138	035	-041	024	062	076	-022	047
48.	-049	-104	-020	-145	-122	112	128	-080	008	031	074	034	-022
$\bar{X}$	6.905	3.229	4.960	4.657	19.61	29.91	191.1	16.26	20.35	15.40	10.78	7.105	5.253
σ	1.583	1.407	1.805	1.567	4.135	12.81	49.56	10.24	9.758	6.549	4.259	2.989	2.476

Table II. con't

	Factors							
	27	28	29	30	31	32	33	34
1.								
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26.								
27.	-							
28.	907	-						
29.	888	674	-					
30.	349	362	233	-				
31.	031	169	-071	112	-			
32.	551	562	471	171	-101	-		
33.	320	555	028	113	255	198	-	
34.	497	602	303	433	156	316	367	-

Table II. con't

	Factors												
	14	15	16	17	18	19	20	21	22	23	24	25	26
35.	032	-069	-142	296	138	261	234	091	049	-020	190	056	207
36.	-086	-213	-318	301	294	192	252	252	238	219	284	216	176
37.	079	-141	-131	296	141	229	253	128	065	-013	233	072	178
38.	003	-051	-098	211	170	224	183	057	080	-056	162	073	140
39.	001	-101	-045	-046	097	-006	075	033	049	094	056	224	-048
40.	165	-062	-079	349	025	268	299	130	052	-078	182	128	222
41.	054	-146	-137	266	079	211	289	149	088	-032	134	169	130
42.	079	236	133	015	-182	061	007	-032	042	-105	047	002	114
43.	060	082	136	027	-096	084	042	-101	-066	-140	096	-200	088
44.	-024	084	-022	028	006	049	-061	-015	037	-048	-016	-194	093
45.	253	141	105	149	-096	124	146	-061	-114	-237	062	-098	083
46.	074	255	233	102	-065	064	-009	-168	-058	-153	144	-078	024
47.	-112	-020	007	-024	156	-109	-068	-050	-066	-34	120	043	-119
48.	-062	-145	-086	074	133	-005	-088	070	-004	150	106	169	-046

Table II. con't

Factors

	27	28	29	30	31	32	33	34
35.	480	603	295	500	-012	324	310	687
36.	249	448	028	290	250	061	444	561
37.	646	121	452	161	239	263	444	540
38.	605	699	376	278	053	407	514	456
39.	045	259	-247	059	260	039	452	111
40.	875	900	669	339	127	521	454	502
41.	671	782	436	230	096	429	486	380
42.	143	053	210	213	-492	135	-224	057
43.	388	202	506	129	-369	288	-138	036
44.	-079	-204	140	246	-393	-000	-295	019
45.	391	356	339	-019	-311	308	037	167
46.	458	218	595	052	-320	206	-261	-005
47.	066	060	049	-249	-226	022	092	-086
48.	-007	129	-123	-222	462	-059	239	077
$\bar{X}$	75.63	28.32	12.50	1.527	-.135	3.951	3.582	5.240
σ	30.33	9.414	6.902	2.280	2.784	2.209	2.520	2.307

Table II. con't

Factors

	35	36	37	38	39	40	41	42	43	44	45	46	47	48
35.	-													
36.	501	-												
37.	411	559	-											
38.	407	329	589	-										
39.	111	297	209	319	-									
40.	500	298	641	561	246	-								
41.	435	340	525	447	297	699	-							
42.	276	-097	-085	026	-094	094	048	-						
43.	232	-170	-006	008	-424	234	091	337	-					
44.	148	-124	-259	-193	-609	-246	-153	317	403	-				
45.	307	-098	096	139	-141	361	318	339	472	097	-			
46.	-092	-143	106	118	-189	276	115	372	274	117	220	-		
47.	-378	-021	133	098	228	038	040	-348	-424	-310	-279	306	-	
48.	-123	244	311	051	368	175	120	-426	-505	-535	-366	-147	552	-
X	7.25	4.13	5.40	5.51	4.76	12.3	6.91	1.36	3.14	-2.5	3.88	1.27	.94	.29
σ	2.91	2.66	2.85	2.50	3.08	4.80	3.02	2.86	2.48	2.95	2.22	2.50	2.78	2.80

Table III. R Matrix-Kirwin High School
(N = 51; r = .273 for p 〈.05; r = .354 for p 〈.01

Factors

I	2	3	4	5	6	7	8	9	10	11	12	13
1.	295	116	203	617	160	-090	-026	101	096	259	026	-122
2.		279	150	774	145	107	218	150	082	277	-020	157
3.			101	573	043	248	208	308	159	441	293	250
4.				505	314	-061	211	178	213	280	091	150
5.					264	080	192	235	178	450	165	163
6.						056	202	119	217	273	091	126
7.							016	099	061	182	259	176
8.								822	739	586	423	406
9.									881	674	543	499
10.										640	618	558
11.											484	424
12.												653
13.												
14.												
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20.												
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25.												
26.												

4.				505	314	-061	211	178	213	280	091	150
5.					264	080	192	235	178	450	165	163
6.						056	202	119	217	273	091	126
7.							016	099	061	182	259	176
8.								822	739	586	423	406
9.									881	674	543	499
10.										640	618	558
11.											484	424
12.												653

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Table III. con't

	Factors												
	14	15	16	17	18	19	20	21	22	23	24	25	26
1.	-079	-284	-154	-124	-140	223	082	163	070	-059	166	097	-087
2.	-286	-095	-161	107	-112	182	012	087	205	-106	-041	135	-188
3.	-085	-108	-165	140	006	003	050	271	054	190	032	204	092
4.	-154	-252	-148	084	169	064	053	213	152	071	421	306	259
5.	-242	-265	-223	050	-051	193	057	240	192	024	200	272	011
6.	-090	-346	-407	161	302	331	225	360	449	076	173	415	133
7.	-091	236	068	-005	028	013	245	-102	-107	-043	-053	056	003
8.	-417	-299	-147	-013	261	-046	-131	246	309	219	172	249	038
9.	-353	-177	-040	-119	186	-180	-249	163	112	267	101	250	069
10.	-302	-202	-079	-095	271	-123	-240	171	215	238	057	245	102
11.	-306	-269	-214	-076	082	-042	034	193	155	128	178	358	146
12.	-217	-140	-052	019	353	-000	-005	178	063	149	275	280	277
13.	-240	-077	-045	164	095	-030	-033	205	186	116	076	211	012
14.		311	214	063	-435	-054	092	-123	-156	-208	-226	-251	149
15.			669	062	-123	-327	-257	-587	-596	-184	003	-253	-179
16.				-283	-071	-466	-432	-692	-590	-165	045	-341	-271
17.					-054	385	444	363	021	-277	227	-048	046
18.						-095	-202	067	153	518	468	338	272
19.							560	416	429	-433	027	101	026
20.								383	221	-323	083	-002	-011
21.									579	128	011	411	173
22.										275	-077	456	210
23.											122	507	278
24.												138	316
25.													359
26.													

5.	-242	-265	-223	050	-051	193	057	240	192	024	200	272	011
6.	-090	-346	-407	161	302	331	225	360	449	076	173	415	133
7.	-091	236	068	-005	028	013	245	-102	-107	-043	-053	056	003
8.	-417	-299	-147	-013	261	-046	-131	246	309	219	172	249	038
9.	-353	-177	-040	-119	186	-180	-249	163	112	267	101	250	069
10.	-302	-202	-079	-095	271	-123	-240	171	215	238	057	245	102
11.	-306	-269	-214	-076	082	-042	034	193	155	128	178	358	146
12.	-217	-140	-052	019	353	-000	-005	178	063	149	275	280	277
13.	-240	-077	-045	164	095	-030	-033	205	186	116	076	211	012
14.		311	214	063	-435	-054	092	-123	-156	-208	-226	-251	149
15.			569	062	-123	-327	-257	-587	-596	-184	003	-253	-179
16.				-283	-071	-466	-432	-692	-590	-165	045	-341	-271
17.					-054	385	444	363	021	-277	227	-048	046
18.						-095	-202	067	153	518	468	338	272
19.							560	416	429	-433	027	101	026
20.								383	221	-323	083	-002	-011
21.									579	128	011	411	173
22.										275	-077	456	210
23.											122	507	278
24.												138	316
25.													359

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Table III. con't

	Factors												
	27	28	29	30	31	32	33	34	35	36	37	38	39
1.	082	-085	033	-106	-108	097	113	043	-048	-103	106	085	-118
2.	069	081	122	-138	-182	075	034	159	-057	-016	023	229	-256
3.	183	136	260	-013	114	180	156	029	-180	039	158	191	016
4.	249	298	112	033	205	056	513	131	-071	278	263	369	126
5.	236	230	224	-056	-072	168	287	180	-097	073	222	330	-140
6.	275	404	155	051	073	-113	410	187	208	198	243	338	233
7.	196	185	240	-026	158	156	-134	060	087	142	005	279	052
8.	257	311	183	004	222	-013	303	116	059	228	198	230	148
9.	172	266	142	001	215	-056	227	051	007	259	138	234	273
10.	224	328	148	108	216	-084	325	011	073	385	187	323	329
11.	318	326	286	047	075	027	249	101	-146	223	207	317	050
12.	426	518	386	020	293	-037	500	317	181	468	489	409	296
13.	169	270	173	-190	269	-142	323	097	-000	269	252	310	356
14.	-124	-208	-114	275	-063	130	-245	-244	-018	-197	-230	-038	-063
15.	-236	-430	-049	056	-222	-003	-480	-463	-224	-439	-492	-223	-113
16.	-184	-324	-104	-033	037	-060	-313	-325	-151	-234	-247	-032	147
17.	156	218	003	109	-199	124	173	080	192	015	026	108	-016
18.	233	299	180	097	313	-211	476	299	112	411	462	168	232
19.	222	322	142	135	-032	082	146	460	421	150	220	090	-177
20.	232	342	048	-034	-105	014	214	282	235	045	130	218	053
21.	112	298	019	[illegible]	[illegible]	[illegible]							

4.	249	298	112	033	205	056	513	131	-071	278	263	369	126
5.	236	230	224	-056	-072	168	287	180	-097	073	222	330	-140
6.	275	404	155	051	073	-113	410	187	208	198	243	338	233
7.	196	185	240	-026	158	156	-134	060	087	142	005	279	052
8.	257	311	183	004	222	-013	303	116	059	228	198	230	148
9.	172	266	142	001	215	-056	227	051	007	259	138	234	273
10.	224	328	148	108	216	-084	325	011	073	385	187	323	329
11.	318	326	286	047	075	027	249	101	-146	223	207	317	050
12.	426	518	386	020	293	-037	500	317	181	468	489	409	296
13.	169	270	173	-190	269	-142	323	097	-000	269	252	310	356
14.	-124	-208	-114	275	-063	130	-245	-244	-018	-197	-230	-038	-063
15.	-236	-430	-049	056	-222	-003	-480	-463	-224	-439	-492	-223	-113
16.	-184	-324	-104	-033	037	-060	-313	-325	-151	-234	-247	-032	147
17.	156	218	003	109	-199	124	173	080	192	015	026	108	-016
18.	233	299	180	097	313	-211	476	299	112	411	462	168	232
19.	222	322	142	135	-032	082	146	460	421	150	220	090	-177
20.	232	342	048	-034	-105	014	214	282	235	045	130	218	053
21.	112	298	019	029	131	069	465	319	164	284	216	074	-009
22.	062	202	006	-017	179	-084	357	315	116	246	167	103	048
23.	-017	006	023	-028	421	-081	307	-070	-250	121	192	-004	186
24.	340	413	120	131	019	-071	494	256	006	115	438	408	170
25.	172	274	182	-026	110	023	427	265	002	275	278	178	-058
26.	143	273	021	177	262	-015	391	264	118	304	318	225	-035
27.		882	836	285	111	373	417	464	381	361	631	614	065
28.			607	215	209	222	624	623	507	532	722	729	281
29.				108	128	286	216	290	194	286	490	338	-135
30.					-162	312	004	261	277	164	100	254	-136
31.						-216	278	250	094	569	439	125	354
32.							-036	084	029	-138	-050	201	-267
33.								444	166	413	558	600	239
34.									581	679	669	373	-049

Table III. con't

Factors

	36	37	38	39
35.	532	356	161	058
36.		730	317	105
37.			436	081
38.				321
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Table III. con't

Factors

	40	41	42	43	44	45	46	47	48	X̄		σ
1.	001	047	-033	022	061	144	-191	116	008	7.113		1.396
2.	-021	002	-059	054	027	-018	063	123	-192	5.019		2.305
3.	090	-039	041	065	-063	-173	162	048	-130	5.673		1.665
4.	299	092	-199	-099	-108	-298	028	309	230	5.094		1.458
5.	140	022	-024	097	013	-086	046	188	-061	22.70		4.614
6.	337	422	-019	-202	081	151	-018	043	147	30.30		10.85
7.	243	-071	054	-145	-047	-353	260	055	213	230.1		55.38
8.	369	208	-233	-221	-224	-097	-151	171	185	21.26		10.00
9.	274	014	-205	-245	-208	-220	-078	128	210	21.91		8.928
10.	286	116	-154	-215	-120	-177	-194	-056	202	16.77		6.775
11.	281	076	-167	-204	039	-163	109	227	062	11.88		4.849
12.	471	121	-139	-223	-259	-177	147	100	453	8.137		3.262
13.	236	-056	-046	-347	-267	-255	134	-004	413	5.680		2.543
14.	-097	-106	437	075	104	061	126	-242	-157	14.74		3.398
15.	-347	-473	305	276	133	-158	155	-193	-268	17.19		5.974
16.	-261	-435	131	111	-170	-131	277	084	170	15.96		7.470
17.	183	310	236	042	097	121	-094	-221	-185	16.83		5.316
18.	175	156	-568	-044	-069	-092	-101	-012	206	13.00		4.224
19.	269	390	230	120	262	122	-203	-140	-180	14.42		5.149
20.	299	524	189	-152	031	119	-134	001	-143	17.51		6.545
21.	224	314	-055	-174	122	205	-204	-127	-044	15.11		5.773
22.	176	234	-231	-067	137	160	-311	-125	062	12.52		5.672
23.	020	-150	-507	-073	-174	028	-222	-118	238	9.862		3.985
24.	314	135	-253	066	-107	-101	-116	247	200	17.21		5.855
25.	244	061	-263	-099	047	023	-180	162	205	13.96		3.656
26.	239	-030	-175	-044	196	-046	-269	-057	083	18.15		4.893
27.	827	624	-081									

4.	299	092	-199	-099	-108	-298	028	309	230	5.094		1.458
5.	140	022	-024	097	013	-086	046	188	-061	22.70		4.614
6.	337	422	-019	-202	081	151	-018	043	147	30.30		10.85
7.	243	-071	054	-145	-047	-353	260	055	213	230.1		55.38
8.	369	208	-233	-221	-224	-097	-151	171	185	21.26		10.00
9.	274	014	-205	-245	-208	-220	-078	128	210	21.91		8.928
10.	286	116	-154	-215	-120	-177	-194	-056	202	16.77		6.775
11.	281	076	-167	-204	039	-163	109	227	062	11.88		4.849
12.	471	121	-139	-223	-259	-177	147	100	453	8.137		3.262
13.	236	-056	-046	-347	-267	-255	134	-004	413	5.680		2.543
14.	-097	-106	437	075	104	061	126	-242	-157	14.74		3.398
15.	-347	-473	305	276	133	-158	155	-193	-268	17.19		5.974
16.	-261	-435	131	111	-170	-131	277	084	170	15.96		7.470
17.	183	310	236	042	097	121	-094	-221	-185	16.83		5.316
18.	175	156	-568	-044	-069	-092	-101	-012	206	13.00		4.224
19.	269	390	230	120	262	122	-203	-140	-180	14.42		5.149
20.	299	524	189	-152	031	119	-134	001	-143	17.51		6.545
21.	224	314	-055	-174	122	205	-204	-127	-044	15.11		5.773
22.	176	234	-231	-067	137	160	-311	-125	062	12.52		5.672
23.	020	-150	-507	-073	-174	028	-222	-118	238	9.862		3.985
24.	314	135	-253	066	-107	-164	-116	247	200	17.21		5.855
25.	244	061	-263	-099	047	023	-180	162	205	13.96		3.656
26.	239	-030	-175	-044	196	-046	-269	-057	083	18.15		4.893
27.	827	624	-081	099	-092	-046	328	218	199	83.58		23.85
28.	879	688	-147	-121	-216	010	154	267	318	31.11		8.109
29.	570	398	-070	135	040	-208	430	180	128	13.62		5.171
30.	291	107	387	494	328	109	-041	-336	-343	1.877		2.395
31.	181	-094	-464	-456	-540	-318	-097	135	626	-.895		3.164
32.	324	028	233	271	148	224	270	027	-071	4.634		2.188
33.	464	328	-377	-226	-103	-005	-156	269	356	4.400		2.969
34.	474	378	-321	-016	-001	-063	-008	195	155	5.566		2.438

Table III. con't

	Factors											
	40	41	42	43	44	45	46	47	48	$\bar{X}$		σ
35.	515	509	120	015	096	017	-055	-218	-049	6.903		2.717
36.	407	275	-418	-317	-021	-408	157	140	450	4.816		3.615
37.	558	460	-424	-228	-252	-145	049	261	466	6.134		2.808
38.	635	320	-078	-054	-207	-145	205	303	363	6.634		2.450
39.	268	178	-178	-363	-636	-065	092	059	466	5.711		3.610
40.		577	-011	-059	-297	001	184	190	358	13.79		4.011
41.			-054	-072	-088	257	-067	080	-110	7.094		3.090
42.				456	303	227	066	-431	-410	.804		3.131
43.					564	074	-127	-418	-593	2.755		2.385
44.						115	-110	-395	-745	-3.20		3.337
45.							-187	-146	-276	3.489		1.793
46.								414	289	2.395		1.917
47.									569	1.744		2.462
48.									-	.818		3.273

38.	635	320	-078	-054	-207	-145	205	303	363	6.634		2.450
39.	268	178	-178	-363	-636	-065	092	059	466	5.711		3.610
40.		577	-011	-059	-297	001	184	190	358	13.79		4.011
41.			-054	-072	-088	257	-067	080	-110	7.094		3.090
42.				456	303	227	066	-431	-410	.804		3.131
43.					564	074	-127	-418	-593	2.755		2.385
44.						115	-110	-395	-745	-3.20		3.337
45.							-187	-146	-276	3.489		1.793
46.								414	289	2.395		1.917
47.									569	1.744		2.462
48.									-	.818		3.273

Table IV. Power Vector Analysis-Ball High School

	Factors											
	I	2	3	4	5	6	7	8	9	10	11	12
1.*	143	361	-075	-095	-162	379	002	051	017	245	-080	-24
2.*	-012	140	-003	-072	017	883	-007	061	022	-380	007	00
3.*	192	446	-043	-065	055	355	030	-073	-019	251	062	18
4.*	095	355	-038	-177	021	273	028	-079	-063	769	013	04
5.*	150	532	-068	-152	-016	698	011	-070	-016	369	-016	-01
6.*	141	107	372	117	077	008	-777	024	182	022	-016	-01
7.*	067	-020	-071	033	725	-027	023	-106	004	-059	-001	-01
8.*	117	724	-027	-085	056	013	023	-006	018	162	020	-02
9.*	182	862	054	-016	089	-037	-034	-028	008	015	037	01
10.*	147	925	001	014	-048	-040	-000	028	004	-071	-017	-00
11.*	150	897	026	057	-040	-010	009	012	-023	-054	-036	-01
12.*	165	747	-081	031	018	066	-031	-028	006	-042	017	03
13.*	156	707	-018	010	-027	-066	052	024	019	-109	018	-00
14.*	115	-001	-214	-078	-119	-096	600	-023	077	-022	-042	-06
15.*	-094	-084	-661	-080	232	068	281	074	-086	123	085	-04
16.*	-110	-079	-576	-027	537	049	200	040	-097	058	-013	04
17.*	392	032	275	-045	-010	-097	198	009	419	011	042	-06
18.*	123	-003	524	094	390	021	-384	-033	167	009	-079	00
19.*	302	013	304	-121	065	-028	129	-023	776	083	044	03
20.*	324	007	355	-030	-014	-074	152	-064	750	-092	-037	-01
21.*	151	048	811	-038	-165	-050	005	-011	123	037	-033	06
22.*	087	043	877	-097	-038	068	074	085	-083	039	044	-00
23.*	-066	047	804	060	317	013	-010	-013	-202	-018	021	-01
24.*	255	024	269	008	438	021	-094	057	298	048	-095	-11
25.*	122	008	648	105	044	000	190	031	-059	-005	-038	-07
26.*	242	081	519	-167	137	042	355	-018	-016	049	064	008
27.*	936	-007	-089	-101	046	021	049	234	-043	-004	031	03

4.*	095	355	-038	-177	021	273	028	-079	-063	769	013	047
5.*	150	532	-068	-152	-016	698	011	-070	-016	369	-016	-014
6.*	141	107	372	117	077	008	-777	024	182	022	-016	-014
7.*	067	-020	-071	033	725	-027	023	-106	004	-059	-001	-012
8.*	117	724	-027	-085	056	013	023	-006	018	162	020	-025
9.*	182	862	054	-016	089	-037	-034	-028	008	015	037	016
10.*	147	925	001	014	-048	-040	-000	028	004	-071	-017	-008
11.*	150	897	026	057	-040	-010	009	012	-023	-054	-036	-013
12.*	165	747	-081	031	018	066	-031	-028	006	-042	017	039
13.*	156	707	-018	010	-027	-066	052	024	019	-109	018	-008
14.*	115	-001	-214	-078	-119	-096	600	-023	077	-022	-042	-067
15.*	-094	-084	-661	-080	232	068	281	074	-086	123	085	-049
16.*	-110	-079	-576	-027	537	049	200	040	-097	058	-013	043
17.*	392	032	275	-045	-010	-097	198	009	419	011	042	-064
18.*	123	-003	524	094	390	021	-384	-033	167	009	-079	001
19.*	302	013	304	-121	065	-028	129	-023	776	083	044	038
20.*	324	007	355	-030	-014	-074	152	-064	750	-092	-037	-014
21.*	151	048	811	-038	-165	-050	005	-011	123	037	-033	066
22.*	087	043	877	-097	-038	068	074	085	-083	039	044	-009
23.*	-066	047	804	060	317	013	-010	-013	-202	-018	021	-010
24.*	255	024	269	008	438	021	-094	057	298	048	-095	-113
25.*	122	008	648	105	044	000	190	031	-059	-005	-038	-070
26.*	242	081	519	-167	137	042	355	-018	-016	049	064	008
27.*	936	-007	-089	-101	046	021	049	234	-043	-004	031	031
28.*	983	-014	004	046	-033	-036	-014	-026	-013	-016	-023	039
29.*	717	-018	-161	-243	119	034	053	448	-064	-005	137	037
30.*	383	049	146	-272	036	025	-114	-152	019	-055	443	099
31.*	119	-087	113	596	-029	013	042	-279	-023	-014	341	106
32.*	576	-038	-094	-129	042	-012	-057	089	-016	-097	-089	292
33.*	524	-064	190	265	-156	034	-009	-381	-036	013	-131	061
34.*	634	-069	072	-026	-016	-028	-173	-242	009	018	190	-120

*See Table I for list of psychometric variables. 1 through 48 above are listed in numberical order in Table I.

Table IV. con't

	Factors											
	I	2	3	4	5	6	7	8	9	10	11	12
35.*	618	-020	024	-299	024	-005	-076	-442	026	-010	115	-05
36.*	443	017	274	188	-026	-078	-159	-309	032	076	172	-51
37.*	758	030	026	237	-005	029	-011	-072	018	098	054	-45
38.*	709	051	-013	093	-001	058	-137	-074	009	129	001	02
39.*	219	035	076	518	023	042	-031	-290	-050	-046	-159	10
40.*	923	004	-026	045	-005	-001	118	031	-017	-036	-053	11
41.*	783	006	037	049	-064	-017	-034	-064	-010	-061	-131	07
42.*	094	168	-091	-597	105	034	108	153	-033	079	-006	-041
43.*	238	-014	-166	-721	080	-035	-012	124	-015	-008	-036	048
44.*	-160	-051	-014	-705	055	015	-101	124	029	-067	325	-046
45.*	360	-078	-195	-463	-003	-142	138	032	038	-015	-663	015
46.*	264	135	-212	-155	187	003	030	815	039	021	-038	-049
47.*	036	025	-022	719	082	-012	-073	553	-004	-025	-035	013
48.*	106	-004	105	839	096	-027	060	-041	-032	015	-025	-043
T^2}	7.826	4.867	4.721	4.076	1.5	1.						

39.*	219	035	076	518	023	042	-031	-290	-050	-046	-159	10
40.*	923	004	-026	045	-005	-001	118	031	-017	-036	-053	11
41.*	783	006	037	049	-064	-017	-034	-064	-010	-061	-131	07
42.*	094	168	-091	-597	105	034	108	153	-033	079	-006	-04
43.*	238	-014	-166	-721	080	-035	-012	124	-015	-008	-036	04
44.*	-160	-051	-014	-705	055	015	-101	124	029	-067	325	-04
45.*	360	-078	-195	-463	-003	-142	138	032	038	-015	-663	01
46.*	264	135	-212	-155	187	003	030	815	039	021	-038	-04
47.*	036	025	-022	719	082	-012	-073	553	-004	-025	-035	01
48.*	106	-004	105	839	096	-027	060	-041	-032	015	-025	-04
Γ^2 }	7.826	4.867	4.721	4.076	1.556	1.717	1.662	2.049	1.606	1.156	1.089	.7

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*See Table I for list of psychometric variables. 1 through 48 above are listed in numerical order in Table I.

Table V. Power Vector Analysis-Kirwin H. S.

	Factors														
	I	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	086	055	496	-126	117	-142	002	049	-128	662	-067	-194	-050	081	-276
2.	084	155	925	-001	-039	-025	-116	-039	004	-177	010	-047	-052	-011	053
3.	170	252	393	112	-017	273	166	089	027	-124	-022	549	009	-198	064
4.	348	113	260	-230	046	-240	262	-067	179	130	056	076	470	137	-005
5.	265	176	892	-064	007	-038	124	019	-003	141	017	104	038	038	-057
6.	420	047	133	-229	383	050	008	-039	058	169	-074	-261	008	846	-010
7.	176	036	056	-225	-242	840	147	-023	-155	094	-253	-087	-024	140	-092
8.	361	800	015	105	082	-065	-131	-009	023	-048	-091	024	111	-049	042
9.	280	925	-009	020	-047	017	-009	021	-025	045	011	010	025	-046	018
10.	344	874	-083	032	029	-012	010	-050	-015	030	091	-094	-051	122	-088
11.	354	663	224	-018	004	144	136	124	-025	125	-035	-414	034	-012	057
12.	561	448	-118	-128	-120	115	169	-018	133	-068	-028	074	-403	-178	015
13.	295	510	010	-302	-006	193	018	-019	420	-237	160	072	-185	-037	036
14.	-214	-342	-194	136	-110	116	245	246	051	071	528	114	-018	202	-012
15.	-470	-073	-102	181	-639	211	232	-078	202	-099	-078	-002	-063	112	171
16.	-332	029	-176	-172	-779	-088	050	-021	015	084	022	-106	-117	162	-070
17.	189	-179	091	222	155	190	-029	-069	767	-128	-020	037	055	-044	-028
18.	349	146	-198	-090	058	-266	215	-402	-114	-312	-564	084	-113	191	-106
19.	322	-289	224	154	460	233	-096	-090	155	180	052	-325	007	026	-126
20.	322	370	060	067	328	501	-181	-139	247	335	027	-002	-021	-061	[illegible]

4.	348	113	260	-230	046	-240	262	-067	179	130	056	076	470	137	-005
5.	265	176	892	-064	007	-038	124	019	-003	141	017	104	038	038	-057
6.	420	047	133	-229	383	050	008	-039	058	169	-074	-261	008	846	-010
7.	176	036	056	-225	-242	840	147	-023	-155	094	-253	-087	-024	140	-092
8.	361	800	015	105	082	-065	-131	-009	023	-048	-091	024	111	-049	042
9.	280	925	-009	020	-047	017	-009	-021	-025	045	011	010	025	-046	018
10.	344	874	-083	032	029	-012	010	-050	-015	030	091	-094	-051	122	-088
11.	354	663	224	-018	004	144	136	124	-025	125	-035	-414	034	-012	057
12.	561	448	-113	-123	-120	115	169	-018	133	-068	-028	074	-403	-178	015
13.	295	510	010	-302	-006	193	018	-019	420	-237	160	072	-185	-037	036
14.	-214	-342	-194	136	-110	116	245	246	051	071	528	114	-018	202	-012
15.	-470	-073	-102	181	-639	211	232	-078	202	-099	-078	-002	-063	112	171
16.	-332	029	-176	-172	-779	-088	050	-021	015	084	022	-106	-117	162	-070
17.	189	-179	091	222	155	190	-029	-069	767	-128	-020	037	055	-044	-028
18.	349	146	-198	-090	058	-266	215	-402	-114	-312	-564	084	-113	191	-106
19.	322	-289	224	154	460	233	-096	-090	155	180	052	-325	007	026	-126
20.	322	370	060	067	328	501	-181	-139	247	335	027	-002	-021	-061	047
21.	312	093	119	023	756	073	006	141	261	-084	-010	095	022	-109	-024
22.	246	128	151	-106	784	016	033	028	-115	-114	022	-066	-026	167	-009
23.	051	282	-127	-147	241	-224	312	-027	-335	-187	-258	528	-100	079	037
24.	417	-018	005	-030	-172	-305	356	-333	373	270	-345	067	085	037	-072
25.	313	201	129	-122	387	-044	378	061	-130	-060	-202	077	-062	081	607
26.	281	-006	-159	-035	239	-091	752	-026	-048	116	130	004	-125	-042	-049
27.	896	-084	019	163	-223	034	-030	147	-058	-036	-064	034	085	-001	001
28.	979	-024	-013	013	-018	010	-042	029	041	050	-007	-003	-022	007	005
29.	653	-044	084	092	-268	127	011	144	-200	-187	-078	-000	090	-054	095
30.	238	-073	-125	663	-073	-061	284	118	-056	-210	139	040	057	159	-120
31.	257	166	-253	-506	071	030	108	-138	-224	-186	183	377	-020	-152	-240
32.	203	-147	139	260	-135	101	080	736	-002	039	-224	035	220	-098	-160
33.	655	092	026	-266	262	-298	251	-098	209	129	-082	011	-038	083	-015
34.	657	-184	097	007	181	-054	075	-154	-114	-204	001	-165	-104	-345	-002

Table V. con't

	Factors														
	I	2	3	4	5	6	7	8	9	10	11	12	13	14	15
35.	507	-190	-139	203	071	106	-118	-183	-067	-129	230	-429	-147	014	-135
36.	596	120	-117	-367	133	054	167	-213	-178	-305	159	-315	015	-103	-179
37.	781	-074	-008	-196	033	-192	098	-232	-107	-072	020	071	-133	-210	-058
38.	723	045	145	-143	-211	050	151	050	097	139	083	019	076	258	-063
39.	225	211	-240	-371	-065	024	-266	-170	157	114	083	329	-060	400	-141
40.	893	002	-108	123	-060	092	-044	157	008	044	053	106	063	031	057
41.	-675	-177	-067	293	198	-027	-475	-137	013	037	003	-020	-020	053	122
42.	-214	-166	045	499	-119	321	-031	271	279	146	332	-081	-010	262	-004
43.	-113	-240	171	690	-142	-106	230	014	-099	-115	-095	-004	098	049	-054
44.	-201	-135	129	485	222	070	400	105	-026	-183	-089	-539	039	012	-031
45.	-059	-191	004	268	277	-285	-248	438	109	198	-175	004	-543	191	-009
46.	160	-163	042	-379	-499	180	-124	448	004	-363	001	-061	101	110	-021

39.	225	211	-240	-371	-065	024	-266	-170	157	114	083	329	-060	400	-141
40.	893	002	-108	123	-060	092	-044	157	008	044	053	106	063	031	057
41.	-675	-177	-067	293	198	-027	-475	-137	013	037	003	-020	-020	053	122
42.	-214	-166	045	499	-119	321	-031	271	279	146	332	-081	-010	262	-004
43.	-113	-240	171	690	-142	-106	230	014	-099	-115	-095	-004	098	049	-054
44.	-201	-135	129	485	222	070	400	105	-026	-183	-089	-539	039	012	-031
45.	-059	-191	004	268	277	-285	-248	438	109	198	-175	004	-543	191	-009
46.	160	-163	042	-379	-499	180	-124	448	004	-363	001	-061	101	110	-021
47.	263	016	109	-564	-252	-193	-143	164	-054	245	-166	-100	230	-166	351
48.	355	125	-265	-748	-122	-083	-025	060	-021	054	026	210	012	-083	062
T^2 }	9.14	4.26	2.92	3.92	3.96	2.04	2.21	1.80	1.70	1.70	1.37	1.83	1.02	1.66	.89

Table VI. Promax Factor Analysis-Ball High School

	Factors										
	I	2	3	4	5	6	7	8	9	10	11
1.	.040	-.049	.047	-.034	.071	.464	-.062	.076	-.079	-.072	-.164
2.	.019	.073	-.088	-.008	.019	.376	.085	-.065	-.108	-.038	.013
3.	.025	.026	.154	-.026	-.025	.378	-.001	-.050	.081	.064	.075
4.	-.016	.033	.098	-.017	-.096	.376	-.019	-.007	.034	-.028	.098
5.	-.023	.024	-.045	-.021	-.057	.943	.020	.013	-.061	.008	.025
6.	-.038	.004	.079	-.051	-.100	-.001	.526	-.015	.112	.018	-.143
7.	-.002	-.034	.032	.048	-.014	-.072	..6	.016	.043	.076	.386
8.	-.086	-.010	.516	-.067	.0346	.088	-.029	.039	.074	.019	.045
9.	-.003	-.010	.696	.043	-.028	.002	.086	.011	.029	-.043	.038
10.	-.007	-.041	.778	-.014	.035	-.045	.021	-.004	-.022	-.003	-.084
11.	.006	-.017	.756	.019	.024	-.071	.006	-.003	-.029	.019	-.067
12.	.046	-.053	.582	.038	-.022	.052	.010	-.025	-.038	.020	.033
13.	.033	.004	.592	-.018	.033	-.063	-.067	.009	-.030	.038	-.042
14.	.084	-.011	.027	.014	-.046	-.057	-.533	.224	-.042	.024	.032
15.	-.072	-.252	-.143	-.043	.152	.093	-.337	-.015	.105	.050	.353
16.	.010	-.196	-.072	.032	.018	.040	-.110	-.076	-.085	.102	.557
17.	.034	-.004	.014	.044	.082	-.015	-.106	.536	.102	-.127	-.066
18.	-.074	.001	-.020	.047	-.011	.019	.619	.159	.015	-.002	.162
19.	-.068	-.036	-.024	-.023	-.020	.064	.046	.616	.016	-.085	.039
20.	-.021	-.014	.024	-.002	-.053	-.031	-.003	.629	-.047	-.023	-.045
21.	.001	.428	-.014	-.054	-.013	.009	.088	.212	-.042	-.025	-.319
22.	.074	-.746	-.072	-.073	.039	.061	.027	-.044	-.063	.016	-.213
23.	-.036	.608	.016	.077	-.037	-.044	.204	-.135	-.022	.051	.069
24.	-.039	-.010	-.029	-.012	.106	.028	.358	.340	.023	.038	.341

									.081	.064	.075
4.	-.016	.033	.098	-.017	-.096	.376	-.019	-.007	.034	-.028	.098
5.	-.023	.024	-.045	-.021	-.057	.943	.020	.013	-.061	.008	.025
6.	-.038	.004	.079	-.051	-.100	-.001	.526	-.015	.112	.018	-.143
7.	-.002	-.034	.032	.048	-.014	-.072	..6	.016	.043	.076	.386
8.	-.086	-.010	.516	-.067	.0346	.088	-.029	.039	.074	.019	.045
9.	-.003	-.010	.696	.043	-.028	.002	.086	.011	.029	-.043	.038
10.	-.007	-.041	.778	-.014	.035	-.045	.021	-.004	-.022	-.003	-.084
11.	.006	-.017	.756	.019	.024	-.071	.006	-.003	-.029	.019	-.067
12.	.046	-.053	.582	.038	-.022	.052	.010	-.025	-.038	.020	.033
13.	.033	.004	.592	-.018	.033	-.063	-.067	.009	-.030	.038	-.042
14.	.084	-.011	.027	.014	-.046	-.057	-.533	.224	-.042	.024	.032
15.	-.072	-.252	-.143	-.043	.152	.093	-.337	-.015	.105	.050	.353
16.	.010	-.196	-.072	.032	.018	.040	-.110	-.076	-.085	.102	.557
17.	.034	-.004	.014	.044	.082	-.015	-.106	.536	.102	-.127	-.066
18.	-.074	.001	-.020	.047	-.011	.019	.619	.159	.015	-.002	.162
19.	-.068	-.036	-.024	-.023	-.020	.064	.046	.616	.016	-.085	.039
20.	-.021	-.014	.024	-.002	-.053	-.031	-.003	.629	-.047	-.023	-.045
21.	.001	.428	-.014	-.054	-.013	.009	.088	.212	-.042	-.025	-.319
22.	.074	-.746	-.072	-.073	.039	.061	.027	-.044	-.063	.016	-.213
23.	-.036	.608	.016	.077	-.037	-.044	.204	-.135	-.022	.051	.069
24.	-.039	-.010	-.029	-.012	.106	.028	.358	.340	.023	.038	.341
25.	.020	.534	-.055	-.036	.084	-.032	-.084	.054	-.024	.211	-.014
26.	.155	.430	.013	.044	-.084	.040	-.078	.145	.022	-.071	.092
27.	.812	.055	-.013	.050	.165	.003	-.047	-.038	.033	-.124	.023
28.	.731	-.008	.014	.038	.014	-.036	.002	-.009	.145	.074	-.046
29.	.738	.079	-.018	.078	.269	-.004	-.048	-.069	-.045	-.362	.072
30.	.135	.158	.042	-.075	-.035	-.065	-.034	-.134	.480	-.106	-.030
31.	.163	.044	.017	.637	-.228	-.026	-.092	-.060	.089	-.078	.074
32.	.458	-.084	-.002	-.126	.022	-.036	.150	-.014	-.038	.017	.023
33.	.296	-.004	-.089	.105	-.204	.105	.047	.047	.066	.255	-.138
34.	.221	-.118	-.052	.028	-.014	-.037	.078	.020	.566	-.055	-.051

Table VI. con't

	Factors										
	I	2	3	4	5	6	7	8	9	10	11
35.	.170	-.094	-.007	-.163	-.219	-.036	.022	.027	.591	.029	.050
36.	.015	-.002	-.005	.102	.007	-.028	.063	.066	.536	.085	-.080
37.	.442	-.080	-.003	.249	.052	.084	-.018	.084	.216	-.014	-.019
38.	.389	-.066	-.027	-.056	.063	.107	.120	-.024	.171	.192	-.017
39.	.027	.063	-.003	-.083	-.037	-.005	.024	-.122	.047	.736	.116
40.	.717	.068	.023	.056	.023	-.022	-.120	.013	.035	.087	.030
41.	,330	.024	.010	-.074	.005	-.003	.008	-.005	.037	.193	-.095
42.	-.086	.133	.023	-.603	.200	.023	-.127	-.028	.177	.158	.082
43.	.320	-.030	.030	-.219	-.149	-.008	.088	-.016	-.110	-.320	.086
44.	-.167	-.030	-.061	-.236	.050	-.016	.091	.012	.254	-.490	-.112
45.	.273	-.100	-.017	-.363	-.083	-.093	-.072	.141	-.105	.075	.056
46.	.250	.041	.041	-.253	.634	-.051	.010	.004	-.093	-.097	.076
47.	.106	-.060	.007	.256	.534	-.050	.149	-.023	-.190	.097	-.019

38.	.389	-.066	-.027	-.056	.063	.107	.120	-.024	.171	.192	-.017
39.	.027	.063	-.003	-.083	-.037	-.005	.024	-.122	.047	.736	.116
40.	.717	.068	.023	.056	.023	-.022	-.120	.013	.035	.087	.030
41.	,330	.024	.010	-.074	.005	-.003	.008	-.005	.037	.193	-.095
42.	-.086	.133	.023	-.603	.200	.023	-.127	-.028	.177	.158	.082
43.	.320	-.030	.030	-.219	-.149	-.008	.088	-.016	-.110	-.320	.086
44.	-.167	-.030	-.061	-.236	.050	-.016	.091	.012	.254	-.490	-.112
45.	.273	-.100	-.017	-.363	-.083	-.093	-.072	.141	-.105	.075	.056
46.	.250	.041	.041	-.253	.634	-.051	.010	.004	-.093	-.097	.076
47.	.106	-.060	.007	.256	.534	-.050	.149	-.023	-.190	.097	-.019
48.	.056	-.020	.028	.484	.112	-.028	-.020	.073	-.047	.181	.102

Table VII. Normalized Principle Axis Factor Analysis-Ball High School

	Factors										
	I	2	3	4	5	6	7	8	9	10	11
1.	093	-074	265	-049	069	518	-052	068	-026	-032	-186
2.	-007	036	046	-033	027	408	071	-071	-073	-052	006
3.	110	014	365	-046	-015	488	-013	-030	140	062	063
4.	023	020	272	-090	-082	472	-047	-004	089	-052	079
5.	061	-019	347	-069	-041	1.053	-003	005	050	030	-024
6.	077	157	104	071	052	-005	617	106	133	076	-090
7.	042	-017	010	007	019	-038	047	016	026	018	400
8.	002	022	670	-098	042	241	-024	056	099	006	051
9.	070	066	821	010	-014	171	102	056	060	-038	052
10.	054	012	408	-017	037	124	049	024	-003	013	-073
11.	061	039	871	026	030	086	038	027	-010	042	-058
12.	097	-031	708	017	-005	194	003	-014	-015	026	032
13.	082	033	692	-023	038	067	-052	028	-012	043	-037
14.	104	-063	040	-060	-021	-056	-575	170	-031	016	-016
15.	-066	-433	-100	-132	208	139	-465	-154	-041	-021	339
16.	-029	-350	-082	-082	088	085	-288	-203	-148	-016	544
17.	240	175	070	033	075	-041	-052	624	-159	-053	-067
18.	049	298	-027	102	-028	-007	658	289	049	014	205
19.	163	176	031	-063	-035	025	060	699	077	-044	025
20.	[illegible]	212	047	-000	-075	-097	032	719	017	044	-070
21.	049	613	026	017	-064	-034	232	362	051	029	-309
22.	010	854	004	-025	006	072	171	114	045	-005	-181
23.	-130	717	017	123	-035	-022	305	-012	041	022	105
24.	157	186	015	-014	114	031	336	431	056	016	375
25.	028	621	002	053	075	-039	015	160	046	211	-003
26.	143	537	073	-025	-074	083	-038	254	111	-109	102

5.	061	-019	347	-069	-041	1053	-003	005	050	030	-024
6.	077	157	104	071	052	-005	617	106	133	076	-090
7.	042	-017	010	007	019	-038	047	016	026	018	400
8.	002	022	670	-098	042	241	-024	056	099	006	051
9.	070	066	821	010	-014	171	102	056	060	-038	052
10.	054	012	408	-017	037	124	049	024	-003	013	-073
11.	061	039	871	026	030	086	038	027	-010	042	-058
12.	097	-031	708	017	-005	194	003	-014	-015	026	032
13.	082	033	692	-023	038	067	-052	028	-012	043	-037
14.	104	-063	040	-060	-021	-056	-575	170	-031	016	-016
15.	-066	-433	-100	-132	208	139	-465	-154	-041	-021	339
16.	-029	-350	-082	-082	088	085	-288	-203	-148	-016	544
17.	240	175	070	033	075	-041	-052	624	-159	-053	-067
18.	049	298	-027	102	-028	-007	658	289	049	014	205
19.	163	176	031	-063	-035	025	060	699	077	-044	025
20.	200	212	047	-000	-075	-097	032	719	017	044	-070
21.	049	613	026	017	-064	-034	232	362	051	029	-309
22.	010	854	004	-025	006	072	171	114	045	-005	-181
23.	-130	717	017	123	-035	-022	305	-012	041	022	105
24.	157	186	015	-014	114	031	336	431	056	016	375
25.	028	621	002	053	075	-039	015	160	046	211	-003
26.	143	537	073	-025	-074	083	-038	254	111	-109	102
27.	948	050	082	-022	172	074	-083	089	101	-160	081
28.	953	051	092	058	-006	-002	007	147	229	101	-015
29.	760	021	049	-081	302	041	-112	011	-012	-448	153
30.	246	204	084	-119	-057	033	026	-016	531	-132	014
31.	082	099	-045	699	-155	-074	-017	-036	121	087	040
32.	588	-068	022	-167	-004	-011	090	063	-010	-040	058
33.	454	096	-037	234	-235	041	107	151	150	371	-175
34.	472	-010	-009	059	-042	-000	145	159	617	014	-011

Table VII. con't

	Factors										
	I	2	3	4	5	6	7	8	9	10	11
35.	456	007	037	-212	-266	037	032	161	657	013	070
36.	241	148	051	231	-014	-019	194	202	591	215	-058
37.	629	002	094	305	067	096	030	200	284	100	-006
38.	610	-016	092	023	035	133	134	087	230	229	003
39.	174	084	065	168	-061	-042	059	-081	075	798	078
40.	887	093	110	045	022	019	-139	138	116	087	048
41.	714	070	040	-017	-030	008	016	115	108	212	-083
42.	043	064	142	-686	149	148	-186	012	181	-027	123
43.	322	-064	006	-475	-168	071	-045	006	-094	-501	118
44.	-181	-032	-094	-423	019	051	079	023	233	-595	-052
45.	406	-117	-023	-484	-127	-076	-192	158	-091	-059	053

39.	174	084	065	168	-061	-042	059	-081	075	798	078
40.	887	093	110	045	022	019	-139	138	116	087	048
41.	714	070	040	-017	-030	008	016	115	108	212	-083
42.	043	064	149	-686	149	148	-186	012	181	-027	123
43.	322	-064	006	-475	-168	071	-045	006	-094	-501	118
44.	-181	-032	-094	-423	019	051	079	023	233	-595	-052
45.	406	-117	-023	-484	-127	-076	-192	158	-091	-059	053
46.	291	-055	156	-288	705	046	-058	008	-137	-209	178
47.	069	-075	036	458	577	-102	210	-037	-244	-217	025
48.	054	040	030	671	176	-100	057	078	-047	-362	080

Table VIII. Means and Standard Deviations for Forty Eight Personality Variables.

No.	Description	Kirwin $\bar{x}$	Kirwin σ	N	BHS $\bar{x}$	BHS σ	N
1	Cul Fair 1	7.113	1.396	53	6.905	1.583	254
2*	Cul Fair 2	5.019	2.305	52	3.229	1.407	253
3*	Cul Fair 3	5.673	1.665	52	4.960	1.805	255
4	Cul Fair 4	5.044	1.458	53	4.657	1.567	254
5*	Tot Cul Fair	22.698	4.614	53	19.605	4.315	256
6	Study Hab.	30.301	10.853	53	29.909	12.809	255
7*	Tot Wrds ISB	230.075	55.383	53	191.078	49.557	256
8*	CCT 1	21.264	10.000	53	16.256	10.237	253
9	CCT 2	21.905	8.928	53	20.419	9.758	252
10	CCT 3	16.769	6.775	52	15.398	6.549	251
11	CCT 4	11.884	4.849	52	10.784	4.259	250
12	CCT 5	8.137	3.262	51	7.105	2.989	246
13	CCT 6	5.680	2.543	50	5.253	2.476	241
14	BIS	14.735	3.398	53	14.678	3.243	255
15	IPAT A(cov)	17.188	5.974	53	17.366	5.302	254
16	IPAT B(ov)	15.962	7.470	53	15.523	6.409	254
17	G-Z Act	16.830	5.316	53	16.047	5.231	255
18	Rest. GZTS	13.000	4.224	53	11.756	4.748	255
19	Ascend GZTS	14.415	5.149	53	13.349	5.029	255
20	Sociab GZTS	17.509	6.544	53	16.083	5.874	253
21	Emot Stab GZTS	15.113	5.773	53	13.023	5.347	255
22	Obj. GZTS	12.519	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

4	Cul Fair 4	5.044	1.458	53	4.657	1.567	254
5*	Tot Cul Fair	22.698	4.614	53	19.605	4.315	256
6	Study Hab.	30.301	10.853	53	29.909	12.809	255
7*	Tot Wrds ISB	230.075	55.383	53	191.078	49.557	256
8*	CCT 1	21.264	10.000	53	16.256	10.237	253
9	CCT 2	21.905	8.928	53	20.419	9.758	252
10	CCT 3	16.769	6.775	52	15.398	6.549	251
11	CCT 4	11.884	4.849	52	10.784	4.259	250
12	CCT 5	8.137	3.262	51	7.105	2.989	246
13	CCT 6	5.680	2.543	50	5.253	2.476	241
14	BIS	14.735	3.398	53	14.678	3.243	255
15	IPAT A(cov)	17.188	5.974	53	17.366	5.302	254
16	IPAT B(ov)	15.962	7.470	53	15.523	6.409	254
17	G-Z Act	16.830	5.316	53	16.047	5.231	255
18	Rest. GZTS	13.000	4.224	53	11.756	4.748	255
19	Ascend GZTS	14.415	5.149	53	13.349	5.029	255
20	Sociab GZTS	17.509	6.544	53	16.083	5.874	253
21	Emot Stab GZTS	15.113	5.773	53	13.023	5.347	255
22	Obj. GZTS	12.519	5.672	52	10.317	5.134	252
23	Friend. GZTS	9.862	3.985	51	8.339	4.617	252
24	Thought. GZTS	17.207	3.855	53	15.105	4.984	255
25	Per. Rel. GZTS	13.961	3.657	52	11.768	4.324	255
26	Mascul. GZTS	18.150	4.893	53	17.156	4.400	255
27	Tot. Adj. ACL	83.584	23.852	53	75.625	30.332	256
28	Fav. Adj. ACL	31.113	8.104	53	28.316	9.414	256
29	Unfav. Adj. ACL	13.622	5.171	53	12.494	6.902	255
30	Self Conf. ACL	1.877	2.395	49	1.527	2.280	216
31	Self Cont. ACL	.895	3.164	48	1.347	2.784	219
32	Labile ACL	4.634	2.188	52	3.951	2.209	248
33	Per. Adj. ACL	4.400	2.969	50	3.582	2.519	237
34	Achiev. ACL	5.566	2.438	53	5.240	2.307	254
35	Domin. ACL	6.903	2.717	52	7.249	2.905	253

Table VIII. con't

No. Description	Kirwin $\bar{x}$	Kirwin	N	BHS $\bar{x}$	BHS	N
36. Endur. ACL	4.816	3.615	49	4.126	2.663	237
37. Order. ACL	6.134	2.808	52	5.404	2.850	247
38*. Intracept. ACL	6.634	2.450	52	5.511	2.495	252
39. Nurtur. ACL	3.711	3.610	52	4.763	3.083	249
40. Affiliat. ACL	13.792	4.011	53	12.343	4.797	256
41. Heterosex. ACL	7.094	3.090	53	6.909	3.019	253
42. Exhib. ACL	.804	3.131	46	1.360	2.863	214
43. Auton. ACL	2.755	2.385	49	3.135	2.481	222
44. Aggress. ACL	-3.195	3.337	46	-2.491	2.954	228
45. Change ACL	3.489	1.793	49	3.883	2.221	249
46. Succor. ACL	2.395	1.917	43	1.274	2.496	208

[illegible]	[illegible]	[illegible]	52	[illegible]	[illegible]	249
40. Affiliat. ACL	13.792	4.011	53	12.343	4.797	256
41. Heterosex. ACL	7.094	3.090	53	6.909	3.019	253
42. Exhib. ACL	.804	3.131	46	1.360	2.863	214
43. Auton. ACL	2.755	2.385	49	3.135	2.481	222
44. Aggress. ACL	-3.195	3.337	46	-2.491	2.954	228
45. Change ACL	3.489	1.793	49	3.883	2.221	249
46. Succor. ACL	2.395	1.917	43	1.274	2.496	208
47. Abse. ACL	1.744	2.462	47	.940	2.783	220
48. Defer. ACL	.818	3.273	44	.286	2.804	227

*Differences between means significant at least at 5% level.

Table IX. Impulsiveness related to infractions

	Infractions			
	Serious	Less Serious	Non Offenders	
BIS > 14	18	36	85	139

Table IX. Impulsiveness related to infractions

		Infractions			
		Serious	Less Serious	Non Offenders	
BIS	> 14	18	36	85	139
	≤ 14	4	41	94	139
		22	77	179	278

$X^2 = 9.68 \quad (p < .01)$

Table X. Fourteen Psychometric Scales related to English Grades (Ball H. S.) step down regression analysis.

Regression Analysis

Psychometric Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Tot. Sc.CFIT	167	167	167	167	167	167	167	167	178	185	186	189	197	
2.Study Habits	331	331	331	331	331	331	331	331	328	323	336	312	310	331
3.CCT-3	036	036	036	036	036	-	-	-	-	-	-	-	-	-
4.BIS	068	068	068	068	068	068	068	068	074	080	087	-	-	-
5.Cov.Anx.	-006	-066	-	-	-	-	-	-	-	-	-	-	-	-
6.Ov.Anx.	057	057	057	057	057	057	057	-	-	-	-	-	-	-
7.Asc.GZTS	-060	-060	-060	-060	-060	-060	-	-	-	-	-	-	-	-
8.Soc.GZTS	108	108	108	108	108	108	108	108	-	-	-	-	-	-
9.Fav.Adj.ACL	-039	-039	-039	-039	-	-	-	-	-	-	-	-	-	-
10.Unfav.Adj.ACL	154	154	154	154	154	154	154	154	136	142	125	130	-	-
11.Self Cont.ACL	-066	-066	-066	-066	-066	-066	-066	-066	-068	-	-	-	-	-
12.Dom.ACL	015	015	015	-	-	-	-	-	-	-	-	-	-	-

1.Tot. Sc.CFIT	167	167	167	167	167	167	167	167	178	185	186	189	197	
2.Study Habits	331	331	331	331	331	331	331	331	328	323	336	312	310	331
3.CCT-3	036	036	036	036	036	-	-	-	-	-	-	-	-	-
4.BIS	068	068	068	068	068	068	068	068	074	080	087	-	-	-
5.Cov.Anx.	-006	-066	-	-	-	-	-	-	-	-	-	-	-	-
6.Ov.Anx.	057	057	057	057	057	057	057	-	-	-	-	-	-	-
7.Asc.GZTS	-060	-060	-060	-060	-060	-060	-	-	-	-	-	-	-	-
8.Soc.GZTS	108	108	108	108	108	108	108	108	-	-	-	-	-	-
9.Fav.Adj.ACL	-039	-039	-039	-039	-	-	-	-	-	-	-	-	-	-
10.Unfav.Adj.ACL	154	154	154	154	154	154	154	154	136	142	125	130	-	-
11.Self Cont.ACL	-066	-066	-066	-066	-066	-066	-066	-066	-068	-	-	-	-	-
12.Dom.ACL	015	015	015	-	-	-	-	-	-	-	-	-	-	-
13.Nurtur.ACL	103	103	103	103	103	103	103	103	096	077	-	-	-	-
14.Suc.ACL	001	-	-	-	-	-	-	-	-	-	-	-	-	-
R[1]	435	435	435	435	435	434	431	429	426	421	414	405	384	331

N = 250

1. R is the multiple correlation with English grades using the psychometric predictors which have entries in each column; the predictor which accounts for the least variance drops out first; the predictor accounting for the most variance is in the last column; cell entries are the standard weights for each predictor: decimal points are omitted in table.

Table XI. Fourteen Psychometric scales related to English grades (Kirwin H. S.); step down regression analysis.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	056	059	053	053	-	-	-	-	-	-	-	-	-	-
2.	635	633	634	640	648	641	642	670	692	679	682	651	685	-
3.	105	102	105	119	127	133	152	145	-	-	-	-	-	-
4.	249	249	250	248	242	226	206	206	171	179	-	-	-	-
5.	385	388	376	357	345	364	366	283	263	253	308	341	309	-
6.	-172	-176	-167	-163	-156	-184	-153	-	-	-	-	-	-	-
7.	-223	-221	-220	-225	-209	-194	-234	-195	-250	-250	-235	-	-	-
8.	-134	-136	-140	-122	-124	-131	-	-	-	-	-	-	-	-
9.	067	064	067	-	-	-	-	-	-	-	-	-	-	-
10.	-139	-135	-133	-100	-093	-140	-134	-137	-101	-	-	-	-	-
11.	029	027	-	-	-	-	-	-	-	-	-	-	-	-
12.	307	308	306	324	306	324	300	289	306	276	268	165	-	-
13.	-009	-	-	-	-	-	-	-	-	-	-	-	-	-

3.	105	102	105	119	127	133	152	145	-	-	-	-	-	-
4.	249	249	250	248	242	226	206	206	171	179	-	-	-	-
5.	385	388	376	357	345	364	366	283	263	253	308	341	309	-
6.	-172	-176	-167	-163	-156	-184	-153	-	-	-	-	-	-	-
7.	-223	-221	-220	-225	-209	-194	-234	-195	-250	-250	-235	-	-	-
8.	-134	-136	-140	-122	-124	-131	-	-	-	-	-	-	-	-
9.	067	064	067	-	-	-	-	-	-	-	-	-	-	-
10.	-139	-135	-133	-100	-093	-140	-134	-137	-101	-	-	-	-	-
11.	029	027	-	-	-	-	-	-	-	-	-	-	-	-
12.	307	308	306	324	306	324	300	289	306	276	268	165	-	-
13.	-009	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	-089	-089	-088	-089	-088	-	-	-	-	-	-	-	-	-
R[1]	753	753	752	752	750	747	740	732	722	716	695	667	649	8

N = 51

1. R is the multiple correlation with English grades using the psychometric predictors which have entries in each column; the predictor which accounts for the least variance drops out first; the predictor accounting for the most variance is in the last column; cell entries are the standard weights for each predictor: decimal points are omitted in table.

Table XII. Fourteen Psychometric Scales related to Math grades (Ball H. S.); step down regression analysis.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	043	042	042	042	-	-	-	-	-	-	-	-	-	-
2.	178	176	173	174	178	178	174	182	173	195	157	160	158	320
3.	297	297	296	297	317	318	318	320	323	312	307	293	299	-
4.	-104	-105	-107	-104	-105	-105	-110	-099	-097	-	-	-	-	-
5.	116	116	129	123	127	129	132	115	115	097	-	-	-	-
6.	028	025	-	-	-	-	-	-	-	-	-	-	-	-
7.	-076	-076	-076	-078	-076	-071	-	-	-	-	-	-	-	-
8.	091	094	091	095	090	101	056	-	-	-	-	-	-	-
9.	065	042	041	-	-	-	-	-	-	-	-	-	-	-
10.	084	106	110	135	136	164	154	158	158	157	160	085	-	-
11.	-085	-087	-087	-080	-082	-084	-081	-078	-	-	-	-	-	-
12.	032	035	033	051	053	-	-	-	-	-	-	-	-	-
13.	-021	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	-141	-145	-145	-146	-149	-171	-169	-168	-148	-150	-131	-	-	-
R^1	420	420	420	419	417	415	412	409	402	391	381	366	356	320

4.	-104	-105	-107	-104	-105	-105	-110	-099	-097	-	-	-	-	-
5.	116	116	129	123	127	129	132	115	115	097	-	-	-	-
6.	028	025	-	-	-	-	-	-	-	-	-	-	-	-
7.	-076	-076	-076	-078	-076	-071	-	-	-	-	-	-	-	-
8.	091	094	091	095	090	101	056	-	-	-	-	-	-	-
9.	065	042	041	-	-	-	-	-	-	-	-	-	-	-
10.	084	106	110	135	136	164	154	158	158	157	160	085	-	-
11.	-085	-087	-087	-080	-082	-084	-081	-078	-	-	-	-	-	-
12.	032	035	033	051	053	-	-	-	-	-	-	-	-	-
13.	-021	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	-141	-145	-145	-146	-149	-171	-169	-168	-148	-150	-131	-	-	-
R[1]	420	420	420	419	417	415	412	409	402	391	381	366	356	320

N = 250

1. R is the multiple correlation with Math grades using the psychometric predictors which have entries in each column; the predictor which accounts for the least variance drops out first; the predictor accounting for the most variance is in the last column; cell entries are the standard weights for each predictor: decimal points are omitted in table.

Table XIII. Fourteen psychometric scales related to math grades[54] (Kirwin H. S.): step down regression analysis.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	258	258	264	267	276	259	238	237	195	193	210	170	-	-
2.	302	302	301	298	299	297	306	288	342	370	348	288	330	36
3.	041	041	039	044	-	-	-	-	-	-	-	-	-	-
4.	-027	-027	-029	-	-	-	-	-	-	-	-	-	-	-
5.	288	288	300	294	295	317	300	313	234	157	191	-	-	-
6.	-242	-242	-249	-252	-258	-246	-233	-224	-142	-	-	-	-	-
7.	-145	-145	-148	-146	-152	-146	-096	-	-	-	-	-	-	-
8.	-117	-117	-113	-120	-134	-153	-142	-187	-170	-137	-	-	-	-
9.	-149	-149	-150	-147	-135	-	-	-	-	-	-	-	-	-
10.	309	309	305	304	308	233	263	258	234	229	227	244	275	-
11.	-027	027	-	-	-	-	-	-	-	-	-	-	-	-
12.	142	141	142	143	146	109	-	-	-	-	-	-	-	-
13.	154	154	151	152	165	122	135	163	-	-	-	-	-	-
14.	001													

5.	288	288	300	294	295	317	300	313	234	157	191	-	-	-
6.	-242	-242	-249	-252	-258	-246	-233	-224	-142	-	-	-	-	-
7.	-145	-145	-148	-146	-152	-146	-096	-	-	-	-	-	-	-
8.	-117	-117	-113	-120	-134	-153	-142	-187	-170	-137	-	-	-	-
9.	-149	-149	-150	-147	-135	-	-	-	-	-	-	-	-	-
10.	309	309	305	304	308	233	263	258	234	229	227	244	275	-
11.	-027	027	-	-	-	-	-	-	-	-	-	-	-	-
12.	142	141	142	143	146	109	-	-	-	-	-	-	-	-
13.	154	154	151	152	165	122	135	163	-	-	-	-	-	-
14.	001	-	-	-	-	-	-	-	-	-	-	-	-	-
R	574	574	574	573	572	568	562	558	540	531	516	486	458	369

N = 51

1. R is the multiple correlation with Math grades using the psychometric predictors which have entries in each column; the predictor which accounts for the least variance drops out first; the predictor accounting for the most variance is in the last column; cell entries are the standard weights for each predictor: decimal points are omitted in table.

Table XIV. Seventeen psychometric scales related to conduct scores in English classes (Ball H. S.); a step down regression analysis

	1	2	3	4	5	6	7	8	9	10	11
1. CFIT	-063	-063	-061	-061	-063	-062	-	-	-	-	-
2. SSHA	-092	-091	-092	-093	-094	-093	-103	-089	-089	-080	-
3. CCT-3	-232	-232	-230	-232	-228	-225	-248	-255	-249	-246	-245
4. BIS	-073	-072	-067	-069	-068	-060	-063	-	-	-	-
5. Covert. Anx.	189	191	186	183	189	181	177	162	161	158	177
6. Overt Anx.	-111	-111	-112	-109	-132	-138	-142	-136	-156	-144	-127
7. Ascend (GZTS)	114	113	112	117	122	118	104	099	099	-	-
8. Sociabil (GZTS)	265	264	263	253	255	262	284	271	274	339	326
9. Mascul. (GZTS)	-140	-139	-142	-139	-137	-137	-148	-156	-171	-166	-155
10. Fav. Adj. (ACL)	142	142	119	141	062	-	-	-	-	-	-
11. Unfav. Ajd. (ACL)	-142	-143	-138	-184	-109	-076	-078	-076	-	-	-
12. Self Conf (ACL)	006	-	-	-	-	-	-	-	-	-	-
13. Self Cont. (ACL)	-035	-034	-	-	-	-	-	-	-	-	-
14. Lability (ACL)	092	093	105	103	103	113	118	118	085	089	083
15. Domin. (ACL)	-154	-150	-136	-128	-119	-096	-102	-093	-108	-097	-086
16. Nurturon (ACL)	-057	-058	-062	-071	-	-	-	-	-	-	-
17. Succor. (ACL)	-057	-056	-047	-	-	-	-	-	-	-	-

5. Covert. Anx.	189	191	186	183	189	181	177	162	161	158	177
6. Overt Anx.	-111	-111	-112	-109	-132	-138	-142	-136	-156	-144	-127
7. Ascend (GZTS)	114	113	112	117	122	118	104	099	099	-	-
8. Sociabil (GZTS)	265	264	263	253	255	262	284	271	274	339	326
9. Mascul. (GZTS)	-140	-139	-142	-139	-137	-137	-148	-156	-171	-166	-155
10. Fav. Adj. (ACL)	142	142	119	141	062	-	-	-	-	-	-
11. Unfav. Ajd. (ACL)	-142	-143	-138	-184	-109	-076	-078	-076	-	-	-
12. Self Conf (ACL)	006	-	-	-	-	-	-	-	-	-	-
13. Self Cont. (ACL)	-035	-034	-	-	-	-	-	-	-	-	-
14. Lability (ACL)	092	093	105	103	103	113	118	118	085	089	083
15. Domin. (ACL)	-154	-150	-136	-128	-119	-096	-102	-093	-108	-097	-086
16. Nurturon (ACL)	-057	-058	-062	-071	-	-	-	-	-	-	-
17. Succor. (ACL)	-057	-056	-047	-	-	-	-	-	-	-	-
R	431	431	430	428	425	424	421	417	412	407	400

N = 248

1. R is the multiple correlation with English grades using the psychometric predictors which have entries in each column; the predictor which accounts for the least variance drops out first; the predictor accounting for the most variance is in the last column; cell entries are the standard weights for each predictor: decimal points are omitted in table.

Table XIV. con't

	12	13	14	15	16	17
1. CFIT	-	-	-	-	-	-
2. SSHA	-	-	-	-	-	-
3. CCT-3	-239	-234	-239	-250	-262	-244
4. BIS	-	-	-	-	-	-
5. Covert Anx	163	162	087	-	-	-
6. Overt Anx	-111	-114	-	-	-	-
7. Ascend (GZTS)	-	-	-	-	-	-
8. Sociabil (GZTS)	305	308	318	300	238	-
9. Mascul (GZTS)	-160	-163	-156	-164	-	-
10. Fav. Adj. (ACL)	-	-	-	-	-	-
11. Unfav. Adj. (ACL)	-	-	-	-	-	-
12. Self Conf (ACL)	-	-	-	-	-	-
13. Self Cont (ACL)	-	-	-	-	-	-
14. Lability (ACL)	051	-	-	-	-	-
15. Domin (ACL)	-	-	-	-	-	-
16. Nurturon (ACL)	-	-	-	-	-	-

[illegible]	-111	-114	-	-	-	-
7. Ascend (GZTS)	-	-	-	-	-	-
8. Sociabil (GZTS)	305	308	318	300	238	-
9. Mascul (GZTS)	-160	-163	-156	-164	-	-
10. Fav. Adj. (ACL)	-	-	-	-	-	-
11. Unfav. Adj. (ACL)	-	-	-	-	-	-
12. Self Conf (ACL)	-	-	-	-	-	-
13. Self Cont (ACL)	-	-	-	-	-	-
14. Lability (ACL)	051	-	-	-	-	-
15. Domin (ACL)	-	-	-	-	-	-
16. Nurturon (ACL)	-	-	-	-	-	-
17. Succor. (ACL)	-	-	-	-	-	-
R	393	390	381	372	340	244

N = 248

Table XV. Impulsiveness, Anxiety, and GPA related to conduct scores. (Analysis of Variance)

Source	SS	df	F	P
Impulsiveness A	3504.60	2	.6048	
Anxiety B	6449.83	2	1.1132	
Grade Pt. Av C	230562.20	2	39.7949	$<.001$
AB	29993.52	4	2.5884	$<.05$
AC	15869.03	4	1.3694	
BC	10110.36	4	.8725	
ABC	15916.71	8	.6868	

AB	29993.52	4	2.5884	$<.05$
AC	15869.03	4	1.3694	
BC	10110.36	4	.8725	
ABC	15916.71	8	.6868	
Error	640210.66	221		
Total	971784.00	247		

Table XVI. Fourteen psychometric scales vs. English grades for individual teachers (Ball H. S.)

	Teachers						
	A	B	G	H	P	V	Y
1. Tot. Cul. Fair	.19	-.22	.20	.24	-.19	.42	-.72
2. SSHA	.33	.05	.24	.30	-.04	.23	-.34
3. CC-3	-.19	-.07	-.06	.21	.26	.42	.23
4. BIS	.60	.00	.20	.20	.27	.29	-.27
5. Anx. Covert	.43	.24	.22	.24	.48	.48	.11
6. Anx. Overt	.57	.40	.16	-.08	.37	.43	-.12
7. Ascend. - G-Z	-.11	-.09	-.15	.09	-.02	.20	.14
8. Sociab. - G-Z	-.48	-.05	-.14	.40	.12	-.20	-.32
9. Favor. - ACL	.69	.11	-.01	.16	.33	.00	-.02
10. Unfavor. - ACL	.59	.29	.05	.27	.23	.12	.02
11. Self Control - ACL	-.33	.01	-.12	-.18	.32	-.08	.10
12. Dominance ACL	.44	-.07	.08	-.01	.12	.01	-.10
13. Nurturance ACL	.67	-.02	.02	-.04	-.02	.10	-.32
14. Succorance ACL	.45	.38	-.11	-.01	-.11	.29	-.20
N	19	23	30	48	49	47	27

4. BIS	.60	.00	.20	.20	.27	.29	-.27
5. Anx. Covert	.43	.24	.22	.24	.48	.48	.11
6. Anx. Overt	.57	.40	.16	-.08	.37	.43	-.12
7. Ascend. - G-Z	-.11	-.09	-.15	.09	-.02	.20	.14
8. Sociab. - G-Z	-.48	-.05	-.14	.40	.12	-.20	-.32
9. Favor. - ACL	.69	.11	-.01	.16	.33	.00	-.02
10. Unfavor. - ACL	.59	.29	.05	.27	.23	.12	.02
11. Self Control - ACL	-.33	.01	-.12	-.18	.32	-.08	.10
12. Dominance ACL	.44	-.07	.08	-.01	.12	.01	-.10
13. Nurturance ACL	.67	-.02	.02	-.04	-.02	.10	-.32
14. Succorance ACL	.45	.38	-.11	-.01	-.11	.29	-.20
N	19	23	30	48	49	47	27
Marital Status	U	U	U	M	M	M	M
Years Teaching	1	1	12	2	15	15	3
Degree	Eng. Hist.	Eng. Hist.	MA Educ.	BS Home Ec. Eng.	Eng. Hist.	Eng. Hist.	Eng. French

Table XVII. Teacher's ratings vs. English grades. (Ball H. S.)

Ball High Teachers Ratings Variable	Eng. Grades Comb.	B	G	A	H	P	V	Y	Reliability[1]
1. Sad-Happy	.22	.61	.27	.32	.63	.06	-.07	.03	.172
2. Social-Asocial	-.10	-.55	.06	-.45	-.43	-.14	.00	.07	.143
3. Leader-Follower	-.45	-.57	-.17	-.84	-.52	-.38	-.32	-.44	.280
4. Bright-dull	-.52	-.73	-.73	-.81	-.76	-.52	-.59	-.25	.313
5. Introvert-Extra.	.08	.24	.15	.13	.54	.08	-.13	-.23	.365
6. Depend-Undepend.	-.45	-.91	-.55	-.66	-.44	-.42	-.51	-.62	.339
7. Coord.-Uncoord.	-.02	-.56	-.04	-.01	-.33	-.32	-.06	-.11	.100
8. Troublemaker VS. good example	.36	.72	-.03	.17	.42	.37	.30	.58	.330
9. Rapid mood changes VS. constant mood	.23	.65	-.13	.28	.28	.22	.31	.24	.205
10. Low Frustrat. Tolerance VS. H.F.T.	.23	.45	.13	.24	.43	.29	.37	.30	.289
N	250	23	30	19	48	49	47	27	269
Marital Status		U	U	U	M	M	M	M	

3. Leader-Follower	-.45	-.57	-.17	-.84	-.52	-.38	-.32	-.44	.280
4. Bright-dull	-.52	-.73	-.73	-.81	-.76	-.52	-.59	-.25	.313
5. Introvert-Extra.	.08	.24	.15	.13	.54	.08	-.13	-.23	.365
6. Depend-Undepend.	-.45	-.91	-.55	-.66	-.44	-.42	-.51	-.62	.339
7. Coord.-Uncoord.	-.02	-.56	-.04	-.01	-.33	-.32	-.06	-.11	.100
8. Troublemaker VS. good example	.36	.72	-.03	.17	.42	.37	.30	.58	.330
9. Rapid mood changes VS. constant mood	.23	.65	-.13	.28	.28	.22	.31	.24	.205
10. Low Frustrat. Tolerance VS. H.F.T.	.23	.45	.13	.24	.43	.29	.37	.30	.289
N	250	23	30	19	48	49	47	27	269
Marital Status		U	U	U	M	M	M	M	
Year's Exp.		1	12	1	2	15	15	3	

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[1] (English Teacher's ratings VS. Ratings of other Teachers

Table XVIII. Fourteen psychometric scales related to English grades (Ball H. S.) with teacher's ratings partialled out.

Psychometric Variables	Teachers A	B	G	H	P	V	Y	
1.	-24	78	56	29	-61	48	-96	
2.	-90	-96	23	-04	16	-01	95	
3.	90	-96	-08	46	27	18	97	
4.	-85	-99	70	-14	24	41	-49	
5.	-92	99	32	-24	41	59	97	
6.	-80	99	18	-09	42	38	95	
7.	-03	-65	00	04	00	11	-99	
8.	-71	-65	14	12	20	-23	55	
9.	15	-75	15	-21	38	19	95	
10.	07	-62	-25	23	26	22	-47	
11.	-64	-99	-26	-16	21	03	96	
12.	-64	-99	67	-21	15	22	89	
13.	-87	-21	32	-35	-05	09	98	
14.	-37	81	-28	27	-12	19	99	
$p < .05$	76	72	66	55	56	57	68	r^*
$p < .01$	82	78	72	63	64	65	74	

2.	-90	-98	23	-04	18	-01	95	
3.	90	-96	-08	46	27	18	97	
4.	-85	-99	70	-14	24	41	-49	
5.	-92	99	32	-24	41	59	97	
6.	-80	99	18	-09	42	38	95	
7.	-03	-65	00	04	00	11	-99	
8.	-71	-65	14	12	20	-23	55	
9.	15	-75	15	-21	38	19	95	
10.	07	-62	-25	23	26	22	-47	
11.	-64	-99	-26	-16	21	03	96	
12.	-64	-99	67	-21	15	22	89	
13.	-87	-21	32	-35	-05	09	98	
14.	-37	81	-28	27	-12	19	99	
$p < .05$	76	72	66	55	56	57	68	r^*
$p < .01$	82	78	72	63	64	65	74	

*These are approximate values of r for significance levels related to N and number of variables.

Table XIX. Fourteen psychometric variables related to English teacher's conduct grades (Ball H. S.); four best predictors from step down regression analysis for each teacher.

Teacher	Four Best Predictors	R*	Significance Level
A	Intelligence Study Habits Ascendance (GZTS) Dominance ACL	.674	$<.05$
B	Study Habits Overt Anxiety Sociability (GZTS) Succorance ACL	.648	$<.05$
G	Study Habits Overt Anxiety Sociability (GZTS) Succorance ACL	.630	$<.05$
H	Intelligence Study Habits Succorance ACL Need for Achievement ACL	.670	$<.05$
P	Covert Anxiety Sociability (GZTS) Unfavorable Adj. ACL Succorance	.419	$<.05$

	Ascendance (GZTS) Dominance ACL	.674	$<.05$
B	Study Habits Overt Anxiety Sociability (GZTS) Succorance ACL	.648	$<.05$
G	Study Habits Covert Anxiety Sociability (GZTS) Succorance ACL	.630	$<.05$
H	Intelligence Study Habits Succorance ACL Need for Achievement ACL	.670	$<.05$
P	Covert Anxiety Sociability (GZTS) Unfavorable Adj. ACL Succorance	.419	$<.05$
V	Intelligence Study Habits Ascendance (GZTS) Self Control ACL	.672	$<.01$
Y	Study Habits Intelligence Overt Anxiety Favorable Adj. ACL	.659	$<.05$

*R is multiple R for four best predictors which are listed for each teacher.

Table XX. Thirteen psychometric scales related to conduct grades (English classes, Ball H. S.) with teacher's ratings partialled out.

Psychometric Variables	Teachers A	B	G	H	P	V	Y
1. CFIT	-66	-07	24	-08	00	-11	31
2. SSHA	-21	-08	-20	18	37	27	08
3. BIS	-32	18	15	-26	-13	04	03
4. Covert Anx.	-13	-08	34	-11	-31	-47	-29
5. Overt Anx.	55	-45	27	-42	-26	-30	-22
6. Asc. GZTS	17	22	26	36	52	26	-02
7. Sociab. GZTS	-18	40	-21	47	56	08	52
8. Favor ACL	25	39	40	72	75	66	67
9. Unfav. ACL	55	00	35	40	45	32	09
10. Self Cont. ACL	25	57	-22	42	27	05	31
11. Dominance ACL	-30	82	63	74	74	40	87
12. Nurturance ACL	37	-19	26	-04	17	-03	34
13. Succorance ACL	14	-49	09	18	01	-15	-12
r $p < .05$	76	72	66	55	56	57	68
$p < .01$	82	78	72	63	64	65	[illegible]

3. BIS	-32	18	15	-26	-13	04	03
4. Covert Anx.	-13	-08	34	-11	-31	-47	-29
5. Overt Anx.	55	-45	27	-42	-26	-30	-22
6. Asc. GZTS	17	22	26	36	52	26	-02
7. Sociab. GZTS	-18	40	-21	47	56	08	52
8. Favor ACL	25	39	40	72	75	66	67
9. Unfav. ACL	55	00	35	40	45	32	09
10. Self Cont. ACL	25	57	-22	42	27	05	31
11. Dominance ACL	-30	82	63	74	74	40	87
12. Nurturance ACL	37	-19	26	-04	17	-03	34
13. Succorance ACL	14	-49	09	18	01	-15	-12
r $p<.05$	76	72	66	55	56	57	68
$p<.01$	82	78	72	63	64	65	74

r

Table XXI. Impulsiveness and Anxiety related to conduct grades by teachers (English, Ball H. S.) with intelligence, study habits, and need for achievement partialled out.

	Teachers						
	A	B	G	H	P	V	Y
BIS	34	46	05	-23	08	07	15
Cov. Anx.	27	21	-12	-24	24	03	-19
Overt Anx.	19	-11	25	-11	03	-22	-47
($p < .05$	60	53	49	39	38	40	51

[illegible]	[illegible]	[illegible]	05	-23	08	07	15
Cov. Anx.	27	21	-12	-24	24	03	-19
Overt Anx.	19	-11	25	-11	03	-22	-47
r $p < .05$	60	53	49	39	38	40	51
$p < .01$	69	61	57	46	45	47	60

Table XXII. Distribution of Conduct grades by English teachers (Ball H. S.).

Conduct* Grades	Teachers A	B	G	H	P	Y	V	Freq.
450-499	0	0	2	0	0	8	0	10
400-449	0	3	6	3	0	4	0	16
350-399	1	0	4	5	3	6	0	19
300-349	2	2	9	7	14	2	0	36
250-299	2	3	9	13	12	3	6	48
200-249	7	6	5	12	11	3	17	61
150-199	4	4	0	4	7	2	8	29
100-149	5	6	0	2	4	0	13	30
N	21	24	35	46	51	28	44	249
Tot. Sc. CFIT $\bar{x}$	19	20	19	19	19	18	21	
SSHA $\bar{x}$	31	34	25	28	31	26	33	

300-349	2	2	9	7	14	2	0	36
250-299	2	3	9	13	12	3	6	48
200-249	7	6	5	12	11	3	17	61
150-199	4	4	0	4	7	2	8	29
100-149	5	6	0	2	4	0	13	30
N	21	24	35	46	51	28	44	249
Tot. Sc. CFIT $\bar{x}$	19	20	19	19	19	18	21	
SSHA $\bar{x}$	31	34	25	28	31	26	33	

*The lower numbers are "better" conduct grades.

Appendix A

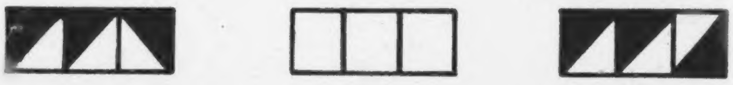
1. Channel Capacity Test
2. Teacher's Rating Scale

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Directions

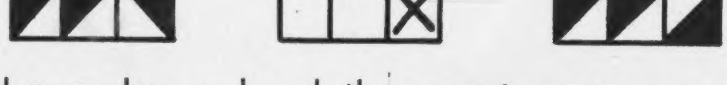
This test involves pairs of figures which are made up of a number of blocks. Each pair of figures will be exactly alike for all the blocks except one. Your task will be to find the single block or square which is different. Then place a mark (X) in the corresponding square of the blank figure which is located between the two test figures. Look at the examples below.

Example 1:



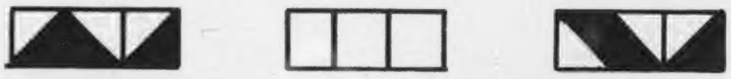
Compare the right-hand and left-hand test figures. Each is made up of three blocks. Find the block which is different. Then place a check mark in the corresponding square of the blank figure in the middle. The correct answer is indicated below:

Answer to Example 1:

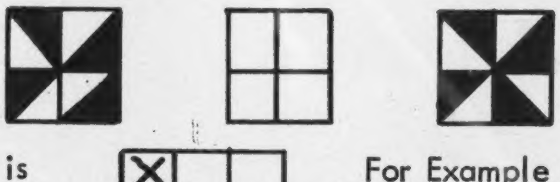


Now look at these additional examples, and mark the correct answer:

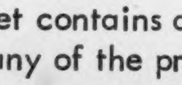
Example 2:



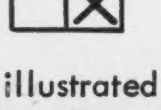
Example 3:



For Example 2 the answer is



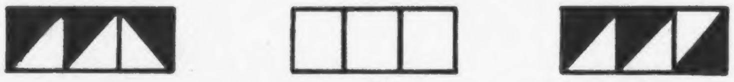
For Example 3 it is



Each page of the test booklet contains a number of problems like those illustrated in the examples. On each page do as many of the problems as possible during the time allowed. When the examiner says "STOP," put down your pencil and await further instructions. Your score will

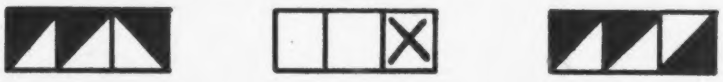
This test involves pairs of figures which are made up of a number of blocks. Each pair of figures will be exactly alike for all the blocks except one. Your task will be to find the single block or square which is different. Then place a mark (X) in the corresponding square of the blank figure which is located between the two test figures. Look at the examples below.

Example 1:



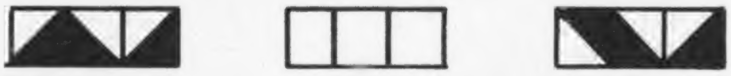
Compare the right-hand and left-hand test figures. Each is made up of three blocks. Find the block which is different. Then place a check mark in the corresponding square of the blank figure in the middle. The correct answer is indicated below:

Answer to Example 1:

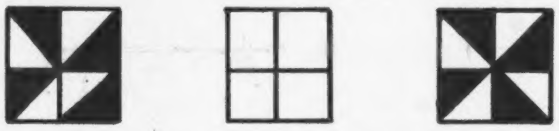


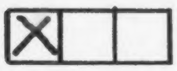
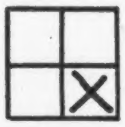
Now look at these additional examples, and mark the correct answer:

Example 2:



Example 3:



For Example 2 the answer is  For Example 3 it is 

Each page of the test booklet contains a number of problems like those illustrated in the examples. On each page do as many of the problems as possible during the time allowed. When the examiner says "STOP," put down your pencil and await further instructions. Your score will be the number correct. Work as rapidly as possible without making careless mistakes. If you have any questions raise your hand and the examiner will answer them. Remember, there is only one incorrect block per problem.

DO NOT OPEN THE BOOKLET UNTIL THE EXAMINER GIVES THE SIGNAL

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Student Rating Scale

Please rate the student whose name appears at the top of the next page on the ten scales on the page. Circle the number between the words for each scale as follows:

(1) If you feel that a student is extreme, on any scale, mark either 1 or 7; for example,

THIS

sad 1 2 3 4 5 6 7 happy

OR THIS

sad 1 2 3 4 5 6 7 happy

(2) Circle 2 or 6 if a student is not extreme but approaches being extreme;

(3) Circle 3 or 5 if a student has a tendency in a certain direction but is not strong or extreme on that scale;

(4) Circle 4 if he is neutral with regard to any scale;

(5) Circle only one number on each scale for each

(1) If you feel that a student is extreme, on any scale, mark either 1 or 7; for example,

THIS

sad 1 2 3 4 5 6 7 happy

OR THIS

sad 1 2 3 4 5 6 7 happy

(2) Circle 2 or 6 if a student is not extreme but approaches being extreme;

(3) Circle 3 or 5 if a student has a tendency in a certain direction but is not strong or extreme on that scale;

(4) Circle 4 if he is neutral with regard to any scale;

(5) Circle only one number on each scale for each student.

Base your ratings on other students whom you have known. These ratings will be kept strickly confidential so please rate the students as you feel they really are.

If you are not certain about a rating for a particular student, give your best estimate (even if you have to guess).

Student's Name:________________

Sad	1	2	3	4	5	6	7	happy
Social	1	2	3	4	5	6	7	asocial
Leader	1	2	3	4	5	6	7	follower
Bright	1	2	3	4	5	6	7	dull
Introvert	1	2	3	4	5	6	7	extrovert
Dependable	1	2	3	4	5	6	7	undependable
Coordinated (Physical)	1	2	3	4	5	6	7	uncoordinated (Physical)
Troublemaker	1	2	3	4	5	6	7	sets good example
Rapid changes in mood	1	2	3	4	5	6	7	mood remains constant

Sad	1	2	3	4	5	6	7	happy
Social	1	2	3	4	5	6	7	asocial
Leader	1	2	3	4	5	6	7	follower
Bright	1	2	3	4	5	6	7	dull
Introvert	1	2	3	4	5	6	7	extrovert
Dependable	1	2	3	4	5	6	7	undependable
Coordinated (Physical)	1	2	3	4	5	6	7	uncoordinated (Physical)
Troublemaker	1	2	3	4	5	6	7	sets good example
Rapid changes in mood	1	2	3	4	5	6	7	mood remains constant
Low Frustration tolerance (acts impulsively on slight provocation)	1	2	3	4	5	6	7	high frustration tolerance (very stable-doesn't act impulsively)

Date:____________ Rater's Name__________________

Appendix B

Teacher's Ratings
VS
14 Psychometric Variables

Teacher's ratings vs. 14 psychometric variables - Teacher A

	Tot. Cul Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. GZTS 7	Soc. GZTS 8	ACL Fav. Adj. 9	Unfav. Adj. ACL 10	Self. Con ACL 11	Dom. ACL 12	Nurtur. ACL 13	Succor. ACL 14	Sad-Happy TRS 15	Sociab. asocial TRS 16
1.																
2.	-.01															
3.	-.03	-.53														
4.	.18	.74	-.51													
5.	.11	.79	-.45	.85												
6.	.21	.68	-.50	.88	.88											
7.	-.10	.19	.21	-.07	.02	-.08										
8.	-.05	.08	.17	-.10	.07	.06	.83									
9.	.29	.35	-.17	.26	.19	.36	.16	-.02								
10.	.53	.28	-.18	.24	.26	.48	.14	.11	.75							
11.	.12	-.50	.31	-.39	-.52	-.42	-.01	.16	.08	.06						
12.	.27	.62	-.46	.41	.25	.43	.03	-.14	.67	.48	-.38					
13.	-.07	-.12	-.07	.11	.00	.16	-.07	-.16	.63	.27	.33	.16				
14.	-.01	.02	-.14	.36	.43	.56	-.11	.03	.02	.37	-.14	-.26	.07			
15.	-.30	.29	-.06	.32	.39	.28	.36	.12	-.14	-.13	-.59	.03	-.15	.40		
16.	-.01	-.67	.28	-.72	-.64	-.72	-.27	-.27	-.34	-.23	.46	-.43	-.03	-.13	-.40	
17.	-.09	-.13	.26	-.48	-.21	-.37	-.10	.10	-.22	-.16	.25	-.37	-.41	-.30	-.49	.25
18.	.03	-.42	.42	-.69	-.49	-.60	.22	.38	-.36	-.20	.26	-.41	-.54	-.29	-.24	.37
19.	-.12	.36	-.05	.40	.37	.30	.38	.22	-.21	-.13	-.63	.06	-.42	.19	.86	-.55
20.	-.23	-.13	.21	-.37	-.34	-.46	.28	.28	-.38	-.32	.05	-.28	-.52	-.41	.11	.08

2.	-.01															
3.	-.03	-.53														
4.	.18	.74	-.51													
5.	.11	.79	-.45	.85												
6.	.21	.68	-.50	.88	.88											
7.	-.10	.19	.21	-.07	.02	-.08										
8.	-.05	.08	.17	-.10	.07	.06	.83									
9.	.29	.35	-.17	.26	.19	.36	.16	-.02								
10.	.53	.28	-.18	.24	.26	.48	.14	.11	.75							
11.	.12	-.50	.31	-.39	-.52	-.42	-.01	.16	.08	.06						
12.	.27	.62	-.46	.41	.25	.43	.03	-.14	.67	.48	-.38					
13.	-.07	-.12	-.07	.11	.00	.16	-.07	-.16	.63	.27	.33	.16				
14.	-.01	.02	-.14	.36	.43	.56	-.11	.03	.02	.37	-.14	-.26	.07			
15.	-.30	.29	-.06	.32	.39	.28	.36	.12	-.14	-.13	-.59	.03	-.15	.40		
16.	-.01	-.67	.28	-.72	-.64	-.72	-.27	-.27	-.34	-.23	.46	-.43	-.03	-.13	-.40	
17.	-.09	-.13	.26	-.48	-.21	-.37	-.10	.10	-.22	-.16	.25	-.37	-.41	-.30	-.49	.25
18.	.03	-.42	.42	-.69	-.49	-.60	.22	.38	-.36	-.20	.26	-.41	-.54	-.29	-.24	.37
19.	-.12	.36	-.05	.40	.37	.30	.38	.22	-.21	-.13	-.63	.06	-.42	.19	.86	-.55
20.	-.23	-.13	.21	-.37	-.34	-.46	.28	.28	-.38	-.32	.05	-.28	-.52	-.41	.11	.08
21.	-.24	-.49	.30	-.22	-.22	-.32	-.14	-.12	-.57	-.44	.25	-.67	+.06	.00	.03	.53
22.	.25	-.28	-.04	-.16	-.14	.01	-.56	-.46	.35	.23	.34	.16	.56	.04	-.55	.35
23.	.56	-.20	-.10	-.06	.03	.16	-.43	-.39	.41	.40	.15	.24	.45	.22	-.41	.27
24.	.10	-.22	-.06	-.16	-.10	.07	-.44	-.28	.37	.23	.34	.12	.60	.14	-.54	.19

Teacher's ratings vs. 14 psychometric variables - Teacher A con't

	Leader Follower 17	Bright Dull 18	Intro. Etxro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood changes Mood Cons. 23	Frust. L Frust. H 24
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.	.63							
19.	-.29	-.11						
20.	.58	.49	.38					
21.	-.16	-.16	-.10	.02				

2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.	.63						
19.	-.29	-.11					
20.	.58	.49	.38				
21.	-.16	-.16	-.10	.02			
22.	-.06	-.10	-.80	-.70	-.03		
23.	-.20	-.24	-.61	-.72	-.08	.84	
24.	-.04	-.13	-.80	-.71	-.09	.92	.78

Teacher B

	Tot. Cul Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. IPAT 7	Soc. GZTS 8	Fav. Adj. ACL 9	Unfav. ADJ. ACL 10	Self. Con. ACL 11	Dom. ACL 12	Nurtur. ACL 13	Succor. ACL 14	- - - SAD- HAPPY TRS 15	Social 16
1.																
2.	.36															
3.	-.20	.37														
4.	-.09	.31	.32													
5.	-.25	.36	.19	.70												
6.	-.09	.45	.30	.48	.47											
7.	-.26	.20	.16	.05	.08	.13										
8.	-.04	.40	.65	.29	.30	.19	.72									
9.	-.39	.21	.33	.17	.29	.26	.48	.61								
10.	-.11	.09	.10	-.08	-.05	.23	.18	.18	.71							
11.	-.42	-.22	.05	.08	.26	-.07	-.08	.07	.28	-.21						
12.	-.41	.38	.26	.09	.28	.17	.61	.59	.66	.14	.46					
13.	-.52	-.28	.09	-.15	.17	-.34	.13	.11	.47	.16	.66	.37				
14.	.45	.09	-.39	-.03	.12	.33	-.24	-.35	.09	.67	-.49	-.55	-.14			
15.	-.27	-.11	.19	.29	.40	.10	.19	.18	.50	.22	.31	.29	.41	.01		
16.	.23	-.13	-.40	-.25	-.28	-.06	-.57	-.55	-.48	.06	-.33	-.57	-.43	.37	-.71	
17.	.11	-.14	-.32	-.46	-.39	-.42	-.30	-.44	-.26	-.11	-.00	-.06	-.03	-.11	-.44	.38
18.	.00	-.24	-.41	-.59	-.42	-.35	-.16	-.51	-.41	-.16	-.07	-.19	.02	.05	-.63	.51
19.	-.05	.02	.23	.18	.24	.39	.22	.23	.44	.40	-.09	-.02	.20	.54	.57	-.44
20.	.35	-.10	-.28	-.30	-.42	-.19	-.12	-.27	-.53	-.32	-.22	-.37	-.30	-.03	-.72	.49
21.	.33	-.41	-.59	-.39	-.32	-.21	-.29	-.51	-.36	.08	-.08	-.56	-.08	.41	-.20	.55
22.	-.32	-.14	.17	.05	[illegible]	[illegible]	[illegible]									

4.	-.09	.31	.32													
5.	-.25	.36	.19	.70												
6.	-.09	.45	.30	.48	.47											
7.	-.26	.20	.16	.05	.08	.13										
8.	-.04	.40	.65	.29	.30	.19	.72									
9.	-.39	.21	.33	.17	.29	.26	.48	.61								
10.	-.11	.09	.10	-.08	-.05	.23	.18	.18	.71							
11.	-.42	-.22	.05	.08	.26	-.07	-.08	.07	.28	-.21						
12.	-.41	.38	.26	.09	.28	.17	.61	.59	.66	.14	.46					
13.	-.52	-.28	.09	-.15	.17	-.34	.13	.11	.47	.16	.66	.37				
14.	.45	.09	-.39	-.03	.12	.33	-.24	-.35	.09	.67	-.49	-.55	-.14			
15.	-.27	-.11	.19	.29	.40	.10	.19	.18	.50	.22	.31	.29	.41	.01		
16.	.23	-.13	-.40	-.25	-.28	-.06	-.57	-.55	-.48	.06	-.33	-.57	-.43	.37	-.71	
17.	.11	-.14	-.32	-.46	-.39	-.42	-.30	-.44	-.26	-.11	-.00	-.06	-.03	-.11	-.44	.38
18.	.00	-.24	-.41	-.59	-.42	-.35	-.16	-.51	-.41	-.16	-.07	-.19	.02	.05	-.63	.51
19.	-.05	.02	.23	.18	.24	.39	.22	.23	.44	.40	-.09	-.02	.20	.54	.57	-.44
20.	.35	-.10	-.28	-.30	-.42	-.19	-.12	-.27	-.53	-.32	-.22	-.37	-.30	-.03	-.72	.49
21.	.33	-.41	-.59	-.39	-.32	-.21	-.29	-.51	-.36	.08	-.08	-.56	-.08	.41	-.20	.55
22.	-.32	-.14	.17	.05	.09	-.05	-.08	.06	.10	-.01	.27	.20	.19	-.36	.42	-.22
23.	-.40	-.30	.08	.16	.33	.07	-.07	.08	.12	-.08	.48	.15	.32	-.30	.43	-.26
24.	-.28	-.15	.10	.40	.35	.06	-.02	.11	.02	-.17	.26	.10	.01	-.38	.30	-.18

	Leader Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood Changes Mood Cons 23	Frust. H. Frust. L. 24
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.	.81							
19.	-.44	-.32						
20.	.67	.77	-.25					
21.	.22	.37	.03	.46				
22.	-.39	-.54	-.27	-.72	-.25			

5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.	.81						
19.	-.44	-.32					
20.	.67	.77	-.25				
21.	.22	.37	.03	.46			
22.	-.39	-.54	-.27	-.72	-.25		
23.	-.31	-.41	-.15	-.56	-.12	.82	
24.	-.25	-.47	-.36	-.46	-.22	.74	.86

Teacher B

	Tot. Cul Fair	SSHA	CCT-3	BIS	Cov. IPAT	Ov. IPAT	Asc. GZTS	Soc. GZTS	Fav. Adj. ACL	Unfav. Adj. ACL	Self. Con. ACL	Dom. ACL	Nurtur. ACL	Succor. ACL	- - - Sad-Happy TRS	Social asocial TRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.																
2.	.15															
3.	-.11	.09														
4.	.18	.09	-.16													
5.	-.03	.04	-.04	.79												
6.	.27	.48	-.05	.63	.61											
7.	.13	.60	.16	.04	-.16	.15										
8.	.11	.16	-.08	.14	.04	-.02	.44									
9.	.08	.30	.10	-.02	.15	.41	.20	.05								
10.	-.08	.33	.29	-.18	-.07	.21	.01	-.21	.73							
11.	-.11	.15	-.05	-.02	.03	.33	-.03	.03	.00	-.14						
12.	.33	.19	-.07	-.01	.04	.14	.19	.06	.62	.31	-.34					
13.	.41	.23	-.03	.20	.35	.37	.22	.22	.24	-.09	.35	.29				
14.	-.05	.22	.42	-.06	.01	.06	.06	.04	.29	.55	-.37	-.09	-.11			
15.	-.04	.04	-.14	.35	.29	.22	-.23	-.16	-.14	.07	.19	-.50	.02	.05		
16.	.02	.09	.17	-.19	-.24	-.42	.23	.07	-.24	-.27	-.18	-.07	-.30	.00	-.45	
17.	-.07	.12	.03	-.16	-.18	-.29	.08	-.13	-.18	-.07	-.25	.12	-.12	.04	-.36	.40
18.	-.03	-.27	-.03	-.17	-.21	-.32	.06	.16	-.22	-.29	-.12	.14	.17	-.07	-.37	.01

4.	.18	.09	-.16													
5.	-.03	.04	-.04	.79												
6.	.27	.48	-.05	.63	.61											
7.	.13	.60	.16	.04	-.16	.15										
8.	.11	.16	-.08	.14	.04	-.02	.44									
9.	.08	.30	.10	-.02	.15	.41	.20	.05								
10.	-.08	.33	.29	-.18	-.07	.21	.01	-.21	.73							
11.	-.11	.15	-.05	-.02	.03	.33	-.03	.03	.00	-.14						
12.	.33	.19	-.07	-.01	.04	.14	.19	.06	.62	.31	-.34					
13.	.41	.23	-.03	.20	.35	.37	.22	.22	.24	-.09	.35	.29				
14.	-.05	.22	.42	-.06	.01	.06	.06	.04	.29	.55	-.37	-.09	-.11			
15.	-.04	.04	-.14	.35	.29	.22	-.23	-.16	-.14	.07	.19	-.50	.02	.05		
16.	.02	.09	.17	-.19	-.24	-.42	.23	.07	-.24	-.27	-.18	-.07	-.30	.00	-.45	
17.	-.07	.12	.03	-.16	-.18	-.29	.08	-.13	-.18	-.07	-.25	.12	-.12	.04	-.36	.4
18.	-.03	-.27	-.03	-.17	-.21	-.32	.06	.16	-.22	-.29	-.12	.14	.17	-.07	-.37	.01
19.	.04	.17	.02	.00	.11	.18	-.17	.19	.36	.38	.12	.12	-.10	.17	.14	-.24
20.	-.01	.04	.06	.05	.05	-.02	.14	.59	.08	.01	-.14	.23	.00	.08	-.15	-.16
21.	-.07	.05	.09	-.24	-.25	-.20	.22	.06	.18	.13	.10	.09	-.06	.12	-.19	.23
22.	-.10	-.04	-.14	-.13	-.24	-.11	.06	-.11	-.14	-.26	-.01	-.15	-.10	-.06	-.00	.16
23.	.10	-.01	-.26	-.41	-.30	-.36	-.10	.26	.09	-.09	.01	.17	.07	.01	-.19	.23
24.	-.01	.11	.17	-.15	-.21	.04	-.05	-.[illegible]	.07	.29	-.05	-.13	-.07	.13	.16	-.14

Teacher G

	Leader. Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood Changes Mood cons 23	Frust. H. Frust. L. 24
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.	.44							
19.	-.62	-.54						
20.	-.19	.39	.39					
21.	.04	.04	.00	-.06				

4.							
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8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.	.44						
19.	-.62	-.54					
20.	-.19	.39	.39				
21.	.04	.04	.00	-.06			
22.	-.22	-.02	-.01	-.20	-.08		
23.	-.04	.08	.18	.07	.15	.49	
24.	-.52	-.41	.38	-.16	-.08	.57	.18

Teacher G con't.

76

	Tot. Cul. Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. GZTS 7	Soc. GZTS 8	Fav. Adj. ACL 9	Unfav. Adj. ACL 10	Self Con. ACL 11	Dom. ACL 12	Nurtur. ACL 13	Succor. ACL 14	Sad-Happy TRS 15	Social 1
1.																
2.	.32															
3.	.07	.01														
4.	-.07	.26	-.20													
5.	.16	.22	-.10	.58												
6.	-.09	.18	-.78	.51	.41											
7.	-.00	.14	.26	.11	.03	.09										
8.	-.07	.06	.29	.06	.10	.03	.60									
9.	.04	.10	.06	.19	.30	.09	.26	.57								
10.	.09	.04	.05	.02	.08	.08	.31	.35	.60							
11.	.14	.03	-.32	.04	.26	.20	.16	.16	.32	-.07						
12.	-.02	.21	.22	.14	.37	.12	.22	.36	.52	.10	.07					
13.	-.26	.03	-.01	.20	.15	.12	-.32	.06	.23	-.42	.26	.14				
14.	-.21	-.08	.03	.02	-.10	.15	.19	.18	.35	.73	-.02	-.13	-.26			
15.	-.03	.12	.05	.08	.18	-.06	.02	.33	.10	.05	-.06	-.05	.07	-.12		
16.	.12	-.12	-.08	.12	.02	.22	.14	-.22	-.20	-.09	-.03	-.03	-.07	-.03	-.69	
17.	.07	-.36	-.04	-.10	-.12	.07	-.07	-.36	-.31	-.15	-.01	-.02	-.13	.07	-.71	.67
18.	-.05	-.38	.01	-.21	-.20	.13	-.12	-.34	-.31	-.20	.06	-.04	-.06	.02	-.77	.61
19.	.00	.15	.31	-.07	.13	-.19	-.12	.29	.24	.15	-.10	.02	.19	.00	.67	-.60
20.	.05	-.09	.11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

4.	-.07	.26	-.20													
5.	.16	.22	-.10	.58												
6.	-.09	.18	-.78	.51	.41											
7.	-.00	.14	.26	.11	.03	.09										
8.	-.07	.06	.29	.06	.10	.03	.60									
9.	.04	.10	.06	.19	.30	.09	.26	.57								
10.	.09	.04	.05	.02	.08	.08	.31	.35	.60							
11.	.14	.03	-.32	.04	.26	.20	.16	.16	.32	-.07						
12.	-.02	.21	.22	.14	.37	.12	.22	.36	.52	.10	.07					
13.	-.26	.03	-.01	.20	.15	.12	-.32	.06	.23	-.42	.26	.14				
14.	-.21	-.08	.03	.02	-.10	.15	.19	.18	.35	.73	-.02	-.13	-.26			
15.	-.03	.12	.05	.08	.18	-.06	.02	.33	.10	.05	-.06	-.05	.07	-.12		
16.	.12	-.12	-.08	.12	.02	.22	.14	-.22	-.20	-.09	-.03	-.03	-.07	-.03	-.69	
17.	.07	-.36	-.04	-.10	-.12	.07	-.07	-.36	-.31	-.15	-.01	-.02	-.13	.07	-.71	.67
18.	-.05	-.38	.01	-.21	-.20	.13	-.12	-.34	-.31	-.20	.06	-.04	-.06	.02	-.77	.61
19.	.00	.15	.31	-.07	.13	-.19	-.12	.29	.24	.15	-.10	.02	.19	.00	.67	-.60
20.	.05	-.09	.11	-.02	-.15	.18	-.04	-.19	-.21	-.04	-.23	.10	-.14	.05	-.60	.61
21.	-.12	-.35	-.15	-.13	-.30	.11	-.04	-.34	-.14	.09	-.03	-.19	-.13	.18	-.59	.42
22.	.18	.17	-.30	.32	.47	.00	-.05	-.07	-.04	.08	.11	-.14	-.13	-.14	.43	-.15
23.	.10	.05	-.00	-.07	.20	-.00	.20	.23	.08	.30	.00	-.08	-.19	-.00	.49	-.37
24.	.22	.36	-.10	.28	.47	.04	.08	.20	.09	.06	.05	.03	-.03	-.18	.57	-.33

Teacher H

	Leader Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood Changes Mood cons 23	Frust. H. Frust. L. 24
1.								
2.								
3.								
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6.								
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8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.	.82							
19.	-.64	-.59						
20.	.60	.62	-.37					
21.	.46	.48	-.42	.50				
22.	-.30	-.52	.14	-.47	-.34			
23.	-.41	-.45	.19	-.51	-.35	52		

5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.	.82						
19.	-.64	-.59					
20.	.60	.62	-.37				
21.	.46	.48	-.42	.50			
22.	-.30	-.52	.14	-.47	-.34		
23.	-.41	-.45	.19	-.51	-.35	.52	
24.	-.50	-.64	.29	-.51	-.60	.77	.70

Teacher H con't.

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	Tot. Cul Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. GZTS 7	Soc. GZTS 8	Fav. Adj. ACL 9	Unfav. Adj. ACL 10	Self. Con. ACL 11	Dom. ACL 12	Nurtur. ACL 13	Succor. ACL 14	Sad-Happy TRS 15	Social asocial 16
1.																
2.	.08															
3.	.09	.23														
4.	-.20	.46	.07													
5.	-.07	.19	.14	.47												
6.	-.20	.23	.09	.64	.48											
7.	-.02	-.04	-.04	.10	.32	.09										
8.	-.07	.00	-.05	.07	.22	.07	.80									
9.	-.07	.16	.20	.15	.27	.02	.44	.44								
10.	.00	.25	.22	.27	.30	.05	.34	.19	.78							
11.	-.09	.02	-.15	.07	-.01	-.16	.07	.15	.23	-.04						
12.	-.06	.10	.19	.08	.12	-.05	.38	.38	.74	.42	.10					
13.	.06	.18	.25	.02	.08	-.07	.04	.18	.24	-.11	.18	.24				
14.	-.04	.26	.31	.10	.09	.14	.04	-.07	.06	.44	-.35	-.23	-.05			
15.	.36	.33	.20	.12	-.10	-.11	.18	.23	-.00	.06	.12	-.12	.30	.09		
16.	-.20	-.08	-.03	-.14	.05	-.05	-.08	-.12	.08	.04	-.07	-.14	-.04	.03	-.45	
17.	-.33	-.17	-.07	-.21	-.11	.00	-.25	-.24	-.27	-.22	-.17	-.24	-.25	-.01	-.50	.58
18.	-.27	-.24	-.30	-.17	-.09	.00	-.02	-.06	-.10	-.07	-.18	-.07	-.18	.06	-.49	.40
19.	.28	.21	.10	.08	.15	-.07	.33	.26	.36	.36	.13	.18	.35	.16	.42	-.21
20.	-.37	-.08	-.17	-.03	-.04	.10	.17	.12	.09	.09	-.18	-.00	.04	.04	-.34	.41
21.	-.15	-.08	-.15	-.20	.00	-.10	.13	-.03	-.08	-.07	-.06	-.08	-.02	-.10	-.37	.54
22.	-.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

5.	-.07	.19	.14	.47												
6.	-.20	.23	.09	.64	.48											
7.	-.02	-.04	-.04	.10	.32	.09										
8.	-.07	.00	-.05	.07	.22	.07	.80									
9.	-.07	.16	.20	.15	.27	.02	.44	.44								
10.	.00	.25	.22	.27	.30	.05	.34	.19	.78							
11.	-.09	.02	-.15	.07	-.01	-.16	.07	.15	.23	-.04						
12.	-.06	.10	.19	.08	.12	-.05	.38	.38	.74	.42	.10					
13.	.06	.18	.25	.02	.08	-.07	.04	.18	.24	-.11	.18	.24				
14.	-.04	.26	.31	.10	.09	.14	.04	-.07	.06	.44	-.35	-.23	-.05			
15.	.36	.33	.20	.12	-.10	-.11	.18	.23	-.00	.06	.12	-.12	.30	.09		
16.	-.20	-.08	-.03	-.14	.05	-.05	-.08	-.12	.08	.04	-.07	-.14	-.04	.03	-.45	
17.	-.33	-.17	-.07	-.21	-.11	.00	-.25	-.24	-.27	-.22	-.17	-.24	-.25	-.01	-.50	.58
18.	-.27	-.24	-.30	-.17	-.09	.00	-.02	-.06	-.10	-.07	-.18	-.07	-.18	.06	-.49	.40
19.	.28	.21	.10	.08	.15	-.07	.33	.26	.36	.36	.13	.18	.35	.16	.42	-.21
20.	-.37	-.08	-.17	-.03	-.04	.10	.17	.12	.09	.09	-.18	-.00	.04	.04	-.34	.41
21.	-.15	-.08	-.15	-.20	.00	-.10	.13	-.03	-.08	-.07	-.06	-.08	-.02	-.10	-.37	.54
22.	-.02	-.21	-.14	.10	-.08	-.14	-.15	-.19	-.09	-.01	.18	-.08	-.14	-.16	.05	-.21
23.	.02	-.01	-.11	.12	-.14	-.05	-.15	-.09	-.19	-.15	.15	-.03	-.04	-.09	.27	-.53
24.	.09	-.08	-.02	.06	-.13	-.09	-.21	-.12	-.15	-.08	.10	-.12	-.09	.13	.24	-.41

Teacher P

	Leader Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood Changes Mood cons. 23	Frust. H. Frust. L. 24
1.								
2.								
3.								
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9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.	.67							
19.	-.66	-.23						
20.	.32	.66	.10					

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9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.	.67						
19.	-.66	-.23					
20.	.32	.66	.10				
21.	.46	.56	-.06	.48			
22.	-.29	-.36	-.03	-.50	-.20		
23.	-.31	-.45	-.16	-.64	-.45	.63	
24.	-.26	-.54	-.21	.78	-.51	.64	.82

Teacher P con't.

	Tot. Cul. Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. GZTS 7	Soc. GZTS 8	Fav. Adj. ACL 9	Unfav. Adj. ACL 10	Self. Con ACL 11	Dom. ACL 12	Nurtur. ACL 13	80 Succor. ACL 14	Sad-Happy ACL 15	Social asocial TRS 16
1.																
2.	.35															
3.	-.00	.03														
4.	.18	.04	.06													
5.	.42	.34	.24	.69												
6.	.34	.34	.02	.64	.64											
7.	.16	.11	-.22	.18	.10	.23										
8.	.17	-.05	-.31	.15	.13	.08	.70									
9.	.08	-.13	-.10	-.00	.00	-.08	.19	.19								
10.	.01	-.24	.08	.04	.09	-.05	-.00	-.05	.64							
11.	.12	-.04	.29	-.10	.12	-.01	-.11	.05	-.04	-.15						
12.	-.10	.13	-.23	-.11	-.04	.00	.15	.06	.44	.30	-.25					
13.	.14	.30	.11	.01	.12	.06	.01	-.05	.04	-.50	.18	-.24				
14.	-.10	-.00	-.00	.21	.24	.12	.12	-.10	.19	.58	-.42	.21	-.20			
15.	.03	-.11	.15	.20	.17	-.04	.45	.49	.04	.08	.01	-.16	-.00	.04		
16.	.19	.20	.15	-.05	-.05	.15	.01	.06	-.21	-.30	.06	-.23	.22	-.22	.13	
17.	.21	.12	-.22	-.15	-.16	-.05	-.11	-.00	-.20	-.20	.09	-.27	.19	-.18	.07	.58
18.	-.05	-.19	-.22	-.10	-.14	-.15	-.40	-.04	.07	-.03	.04	-.00	.12	-.24	.04	.22
19.	-.11	-.11	-.13	-.10	-.20	-.19	.35	.17	.10	.12	.01	.13	-.06	-.03	.44	-.11
20.	-.05	-.19	-.08	.05	.02	-.09	-.30	-.02	.06	.04	.06	.02	.03	-.22	-.14	-.00
21.	-.07	.22	.14	-.16	-.03	.04	-.20	-.21	.06	-.15	.23	.14	.29	-.09	-.16	.38
22.	.07	-.04	.45	.28	.29	.24	-.05	-.09	-.08	.08	-.17	-.05	-.07	.07	.07	.14
23.	.05	-.14	.34	.36	.26	.04	-.05									

3.	-.00	.03														
4.	.18	.04	.06													
5.	.42	.34	.24	.69												
6.	.34	.34	.02	.64	.64											
7.	.16	.11	-.22	.18	.10	.23										
8.	.17	-.05	-.31	.15	.13	.08	.70									
9.	.08	-.13	-.10	-.00	.00	-.08	.19	.19								
10.	.01	-.24	.08	.04	.09	-.05	-.00	-.05	.64							
11.	.12	-.04	.29	-.10	.12	-.01	-.11	.05	-.04	-.15						
12.	-.10	.13	-.23	-.11	-.04	.00	.15	.06	.44	.30	-.25					
13.	.14	.30	.11	.01	.12	.06	.01	-.05	.04	-.50	.18	-.24				
14.	-.10	-.00	-.00	.21	.24	.12	.12	-.10	.19	.58	-.42	.21	-.20			
15.	.03	-.11	.15	.20	.17	-.04	.45	.49	.04	.08	.01	-.16	-.00	.04		
16.	.19	.20	.15	-.05	-.05	.15	.01	.06	-.21	-.30	.06	-.23	.22	-.22	.13	
17.	.21	.12	-.22	-.15	-.16	-.05	-.11	-.00	-.20	-.20	.09	-.27	.19	-.18	.07	.58
18.	-.05	-.19	-.22	-.10	-.14	-.15	-.40	-.04	.07	-.03	.04	-.00	.12	-.24	.04	.22
19.	-.11	-.11	-.13	-.10	-.20	-.19	.35	.17	.10	.12	.01	.13	-.06	-.03	.44	-.11
20.	-.05	-.19	-.08	.05	.02	-.09	-.30	-.02	.06	.04	.06	.02	.03	-.22	-.14	-.00
21.	-.07	.22	.14	-.16	-.03	.04	-.20	-.21	.06	-.15	.23	.14	.29	-.09	-.16	.38
22.	.07	-.04	.45	.28	.29	.24	-.05	-.09	-.08	.08	-.17	-.05	-.07	.07	.07	.14
23.	.05	-.14	.34	.36	.26	.04	.05	.13	.14	-.00	-.01	-.27	.23	.09	.18	.14
24.	.01	-.14	.39	.35	.29	.20	.03	.07	.00	-.00	.07	-.31	.10	.02	.15	-.03

Teacher V

	Leader Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble sets good example 22	Mood Changes Mood cons. 23	Frust. H. Frust. L. 24
1.								
2.								
3.								
4.								
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6.								
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12.								
13.								
14.								
15.								
16.								
17.								
18.	.55							
19.	.05	.11						
20.	.30	.60	.11					
21.	.14	.37	.08	.31				
22.	-.24	-.28	-.17	-.21	-.15			
23.	-.20	-.19	-.13	-.28	-.11	.52		
24.	-.32	-.34	-.17	-.32	-.23	.76	.76	

4.							
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14.							
15.							
16.							
17.							
18.	.55						
19.	.05	.11					
20.	.30	.60	.11				
21.	.14	.37	.08	.31			
22.	-.24	-.28	-.17	-.21	-.15		
23.	-.20	-.19	-.13	-.28	-.11	.52	
24.	-.32	-.34	-.17	-.32	-.23	.76	.76

Teacher V con't.

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	Tot. Cul. Fair 1	SSHA 2	CCT-3 3	BIS 4	Cov. IPAT 5	Ov. IPAT 6	Asc. GZTS 7	Soc. GZTS 8	Fav. Adj. ACL 9	Unfav. Adj. ACL 10	Self. Con ACL 11	Dom. ACL 12	Nurtur. ACL 13	Succor. ACL 14	Sad-Happy ACL 15	Social 16
1.																
2.	.02															
3.	-.06	-.21														
4.	.06	.33	-.27													
5.	.25	.26	-.04	.67												
6.	-.22	.17	.04	.52	.61											
7.	-.19	-.06	-.19	-.07	-.39	-.32										
8.	-.22	-.14	-.00	-.06	-.21	.04	.51									
9.	-.26	.23	.04	.18	.07	.14	.02	.17								
10.	.23	.16	.15	.05	.18	-.22	-.26	-.33	.46							
11.	-.11	.14	.22	.10	-.00	-.04	.09	.00	.46	-.02						
12.	.20	.05	-.03	-.24	-.16	-.17	-.01	.27	.55	.25	.30					
13.	-.40	-.00	-.02	.04	-.19	.22	.30	.49	.36	-.52	.44	.20				
14.	.59	.31	.06	.24	.20	-.36	-.14	-.25	.12	.74	-.32	.35	-.73			
15.	-.22	-.12	.29	-.34	-.23	.14	.05	-.01	.28	.04	.16	.22	.26	-.23		
16.	.08	.28	-.20	.34	.11	-.14	.05	-.05	-.10	-.06	.30	-.10	-.08	.16	-.47	
17.	.06	-.21	-.13	-.08	.09	-.16	-.17	-.10	-.09	.05	-.10	-.28	-.08	.02	-.10	.12
18.	.10	-.17	-.09	.00	.13	.12	-.12	.16	-.30	-.40	.07	-.21	.10	-.32	-.16	.46
19.	-.19	-.06	.03	-.33	-.23	-.10	.08	-.04	.11	.03	-.42	.19	-.02	-.09	.23	-.48
20.	.40	-.06	.18	-.20	-.12	-.21	.13	.23	-.04	.11	-.21	.15	-.09	.24	-.20	-.20
21.	.30	.19	-.19	-.20	-.04	-.16	.08	-.14	-.11	.03	-.28	.00	-.05	-.06	.11	-.21
22.	-.26	.08	-.18	.31	.18	.17	-.05	-.13	.21	.07	.14	.10	.12	-.02	.26	.12
23.	.00	-.29	-.08	.14	.04	.05	.00	-.04	.16	-.01	.48	.20	.17	-.15	.21	.13
24.	-.30	-.24	-.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

6.	-.22	.17	.04	.52	.61											
7.	-.19	-.06	-.19	-.07	-.39	-.32										
8.	-.22	-.14	-.00	-.06	-.21	.04	.51									
9.	-.26	.23	.04	.18	.07	.14	.02	.17								
10.	.23	.16	.15	.05	.18	-.22	-.26	-.33	.46							
11.	-.11	.14	.22	.10	-.00	-.04	.09	.00	.46	-.02						
12.	.20	.05	-.03	-.24	-.16	-.17	-.01	.27	.55	.25	.30					
13.	-.40	-.00	-.02	.04	-.19	.22	.30	.49	.36	-.52	.44	.20				
14.	.59	.31	.06	.24	.20	-.36	-.14	-.25	.12	.74	-.32	.35	-.73			
15.	-.22	-.12	.29	-.34	-.23	.14	.05	-.01	.28	.04	.16	.22	.26	-.23		
16.	.08	.28	-.20	.34	.11	-.14	.05	-.05	-.10	-.06	.30	-.10	-.08	.16	-.47	
17.	.06	-.21	-.13	-.08	.09	-.16	-.17	-.10	-.09	.05	-.10	-.28	-.08	.02	-.10	.12
18.	.10	-.17	-.09	.00	.13	.12	-.12	.16	-.30	-.40	.07	-.21	.10	-.32	-.16	.46
19.	-.19	-.06	.03	-.33	-.23	-.10	.08	-.04	.11	.03	-.42	.19	-.02	-.09	.23	-.48
20.	.40	-.06	.18	-.20	-.12	-.21	.13	.23	-.04	.11	-.21	.15	-.09	.24	-.20	-.20
21.	.30	.19	-.19	-.20	-.04	-.16	.08	-.14	-.11	.03	-.28	.00	-.05	-.06	.11	-.21
22.	-.26	.08	-.18	.31	.18	.17	-.05	-.13	.21	.07	.14	.10	.12	-.02	.26	.12
23.	.00	-.29	-.08	.14	.04	.05	.00	-.04	.16	-.01	.48	.20	.17	-.15	.21	.13
24.	-.30	-.24	-.03	-.04	-.09	.19	-.02	-.08	.17	-.07	.16	.14	.18	-.29	.28	-.01

Teacher Y

	Leader Follower 17	Bright Dull 18	Intro. Extro. 19	Depend. Undepend. 20	Coord. Uncoord. 21	Trouble. sets good example 22	Mood Changes Mood cons. 23	Frust. H. Frust. L. 24
1.								
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13.								
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15.								
16.								
17.								
18.	.50							
19.	-.05	-.36						
20.	-.04	.02	.35					
21.	.14	.03	.28	.31				
22.	-.11	-.01	-.27	-.77	-.12			
23.	.11	.25	-.56	-.52	-.22	.65		
24.	.07	.10	-.32	-.59	-.33	.52	.65	

4.							
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14.							
15.							
16.							
17.							
18.	.50						
19.	-.05	-.36					
20.	-.04	.02	.35				
21.	.14	.03	.28	.31			
22.	-.11	-.01	-.27	-.77	-.12		
23.	.11	.25	-.56	-.52	-.22	.65	
24.	.07	.10	-.32	-.59	-.33	.52	.65

Teacher Y con't.